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*Chilton's*

# MOTOR AGE

APRIL 1951

MATERNITY



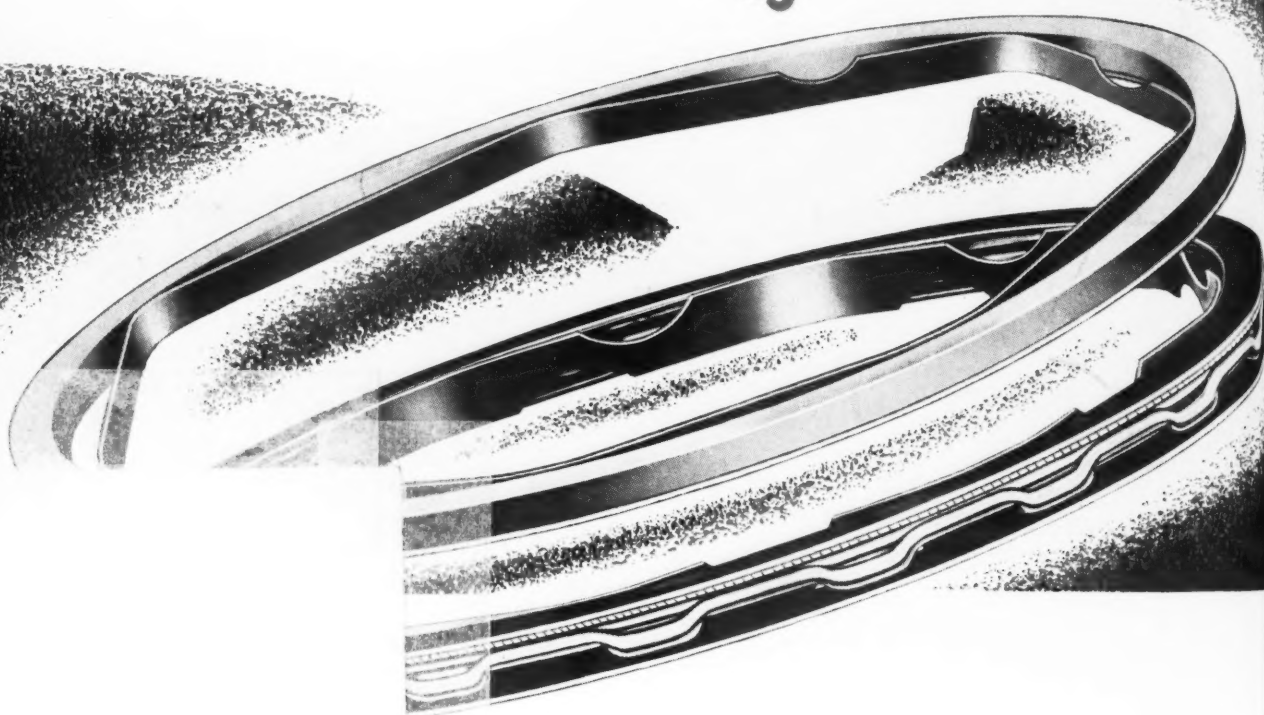
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In This Issue:

## Studebaker V-8 Engine Serv

# HASTINGS USES CHROME WHERE IT DOES THE MOST GOOD

...ON THE OIL CONTROL RINGS



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i. That's why  
al oil rings,

chrome-Faced  
been setting  
ider severe

operating conditions. Reports of three and four times conventional ring life are common.

Under any operating conditions, you'll get greater resistance to scuffing, less cylinder wall drag and longer life with Hastings Chrome Sets. Install them on your next heavy duty re-bore, re-ring or re-sleeve job.

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# HASTINGS

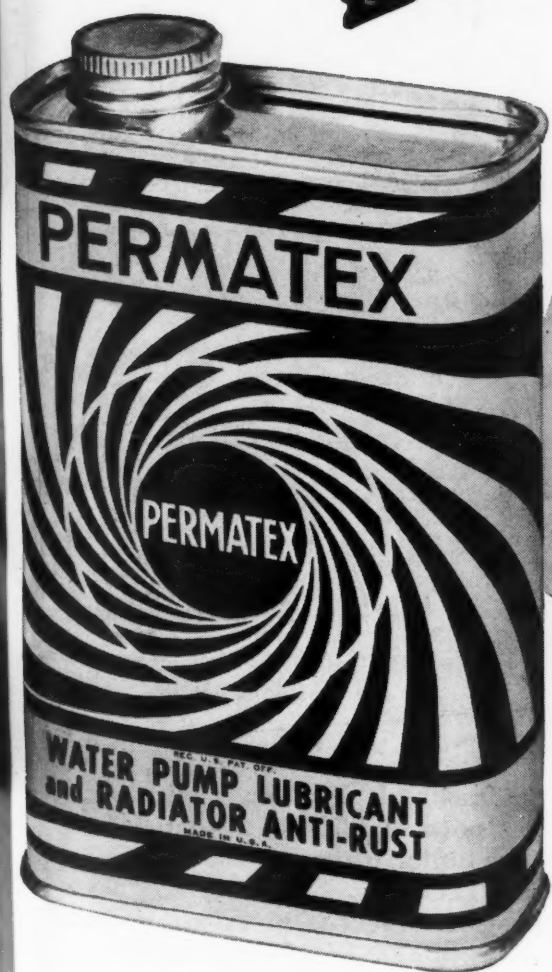
STEEL-VENT  
PISTON RINGS

CHROME-FACED FOR HEAVY DUTY SERVICE



# WATER PUMP

## *Lubricant*



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COOLING SYSTEM  
Service

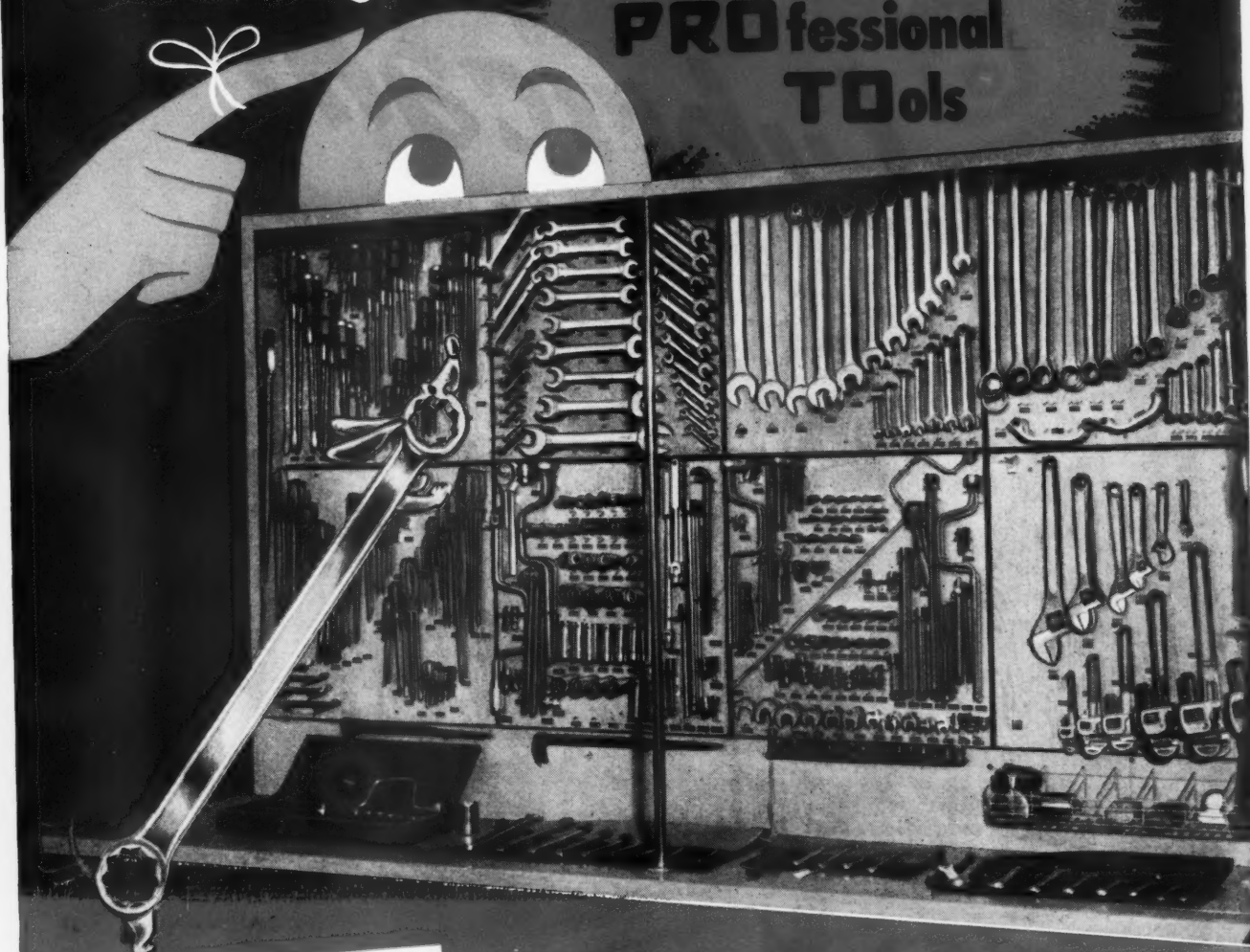
...LUBRICATES  
...PREVENTS RUST

Takes squeals out of water pumps and clarifies water in cooling systems. It contains a Soluble Oil that lubricates all water pump parts and coagulates rust. Harmless to metals and rubber hose. Works perfectly in the presence of any standard anti-freeze.

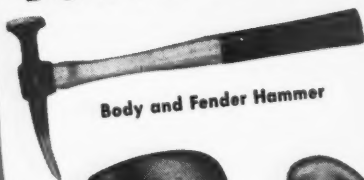
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WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

For THE AUTOMOTIVE SERVICE INDUSTRY

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Vol. LXX, No. 5

April, 1951

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# "We find it fun to forge a future"

say the three Baxter brothers



Reading time: 1 minute, 48 seconds

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Ferd Baxter and his brothers can point to one of the most successful automobile businesses in New England. They can look back on three decades of selling cars. And over the route they see work and fun mixed together.

There was that time when Ferd needed a car to get to college in Canada. Borrowing \$15, he bought an old clunker, tuned it up, and headed for the tall pine country.



Along the way, he swapped cars three times. When he greeted his brothers he was driving a fine car and had \$100 in his pocket. The brothers—and Ferd—knew he was cut out for automobile selling.

It wasn't surprising. Baxter, Sr. was an old horse-trader in the days when selling a Connecticut Yankee on a horse swap was no mean feat. The boys used to sit on the fence, watching Pa go to work on a prospect. They learned the power of demonstration, enthusiasm and persuasive selling.

These qualities came in handy when, in 1935, the Baxter Brothers opened their own dealership. Despite the general lull of the recession years, they steadily made headway. They took trades of all kinds—motorboats, trailers, real estate—gave honest value—and prospered. Ferd even took to the air, flying



his own plane to close a deal. Once two somber Chinese appeared in the office, representatives of the Far East leader. That day Bob sold a limousine to Chiang-Kai Chek.

"Yes," Ferd . . . or Bob . . . or Stan, will tell you, "there's a world of fun in selling automobiles. There's



plenty of work all right, but every day brings new opportunities to use your imagination and selling ability. And when you sell a quality product that represents real value, your future is just about set. Every one of us agrees: we find it fun to forge a future with Chrysler products."

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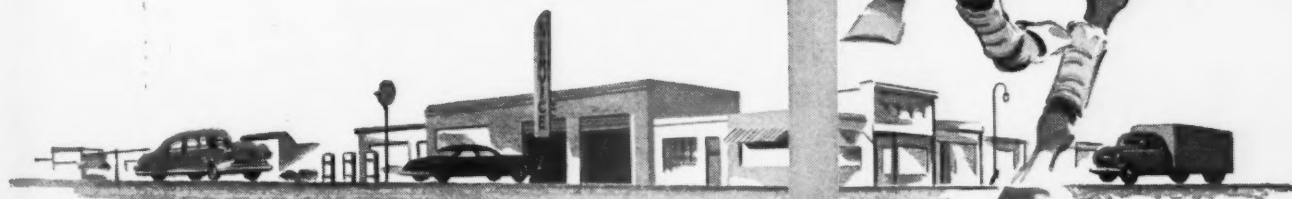
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- O** verall Safety Margin!
- S** mooth, Positive Pump Action!
- C** ompact design! 68 lbs. total weight
- O** verload Valve! Prevents damage due to overloading

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R-5498

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**BUMPER JACK!**

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**NEW 2500 POUND curb jack**

**BOSCO**



R5498

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RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings  
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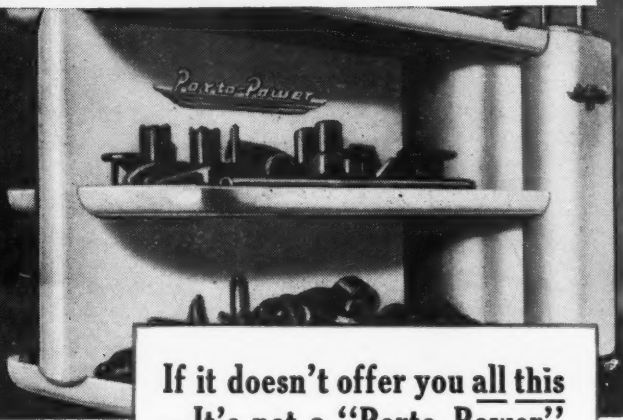


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Only with "Porto-Power" can you get *all* the PUSH and PULL attachments and hydraulic rams demanded by body experts. Check any body jack line — item for item! *Nothing even closely equals "Porto-Power"!* This Jobber Display (left) dramatizes the "Porto-Power" completeness that spells *profit-power* for your shop.



.. another reason why Porto-Power owners  
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the best bids ... coin bigger profits

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# BLACKHAWK

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- ☐ Easier handling... a single hose with a revolving coupler and All-directional rams!
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- ☐ The *complete* line-up of body-work attachments for every type of body damage.

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### 3. CLEANS THE WATER JACKET OF THE BLOCK ALONE

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## On-the-Car Service FOR CARS, TRUCKS, TRACTORS & BUSES

Thoroughly cleans the Radiator and Water Jacket  
of the Block, Heater Hoses, and Heater—  
Any Capacity—All in One Operation—  
In less time than it takes to remove a Radiator!

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buy on easy terms with our*

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**BUY IT ON TIME !**

**ASK YOUR  
JOBBER ABOUT**

**AEP**

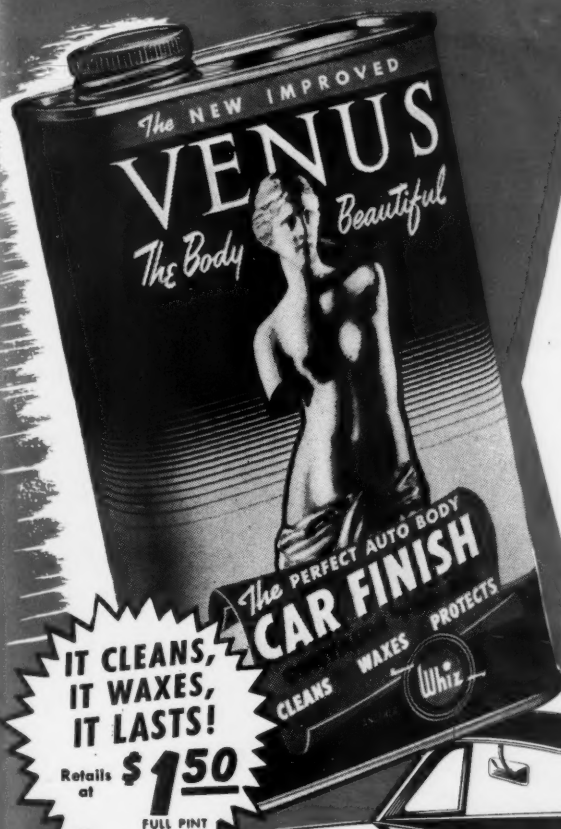
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CONTAINS FOR-SIL—The Greatest Development Since Silicones

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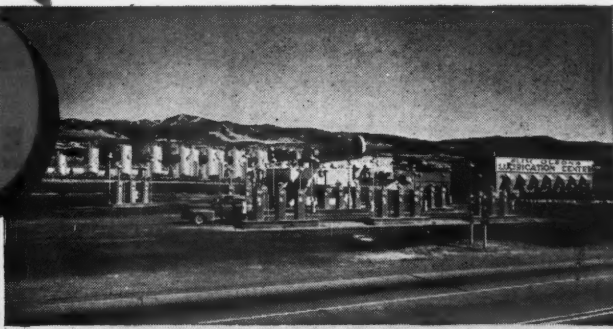
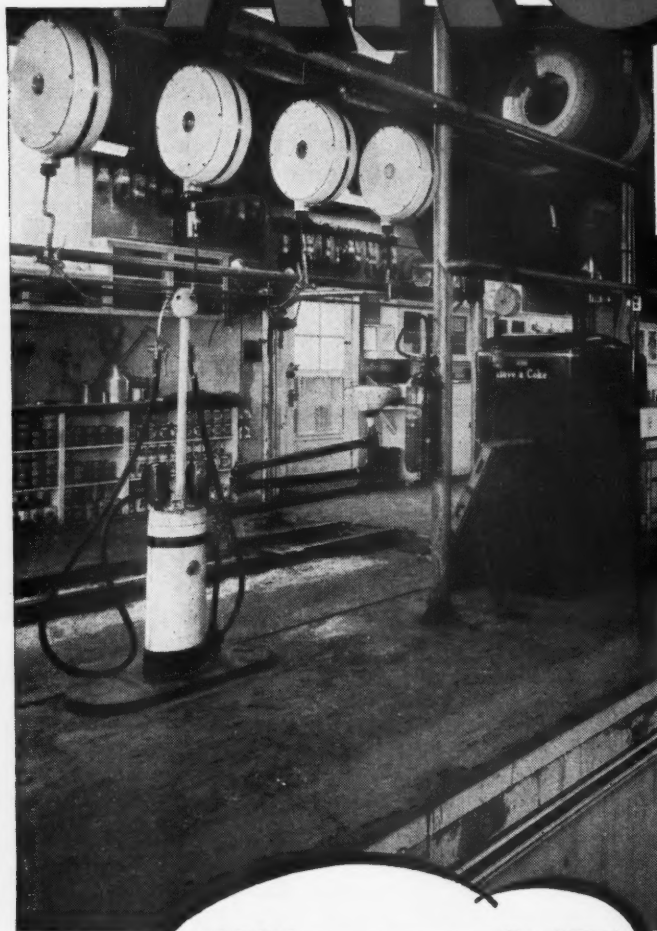


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LEADER IN MAINTENANCE CHEMICALS  
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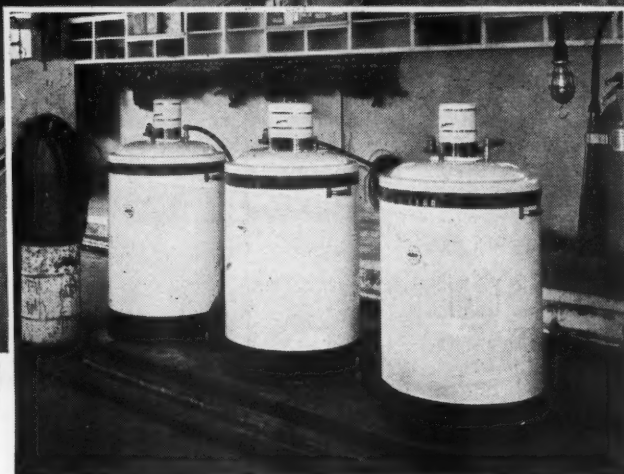
# "World's Largest Station"

SERVED  
by

# ARO



Slim Olson's gigantic station covers 14 acres, has 200,000 gallons storage, 34 pumps.



ARO overhead reels used for cars on the lift... while the 65 ft. grease pit is served by ARO lubricators pumping directly from 400 lb. drums.

"ARO keeps our profits UP"

— says Slim Olson, owner of Slim Olson, Inc., "World's Largest Station" at Bountiful, Utah.



ARO Lube Equipment services cars, largest trucks and trailers 24 hours a day at Slim Olson's.

"Our equipment has to be good—to keep our lube center on a production-line basis," says Mr. Olson.

For biggest or smallest requirements... see your Aro Jobber.

**The Aro Equipment Corporation, Bryan, Ohio**

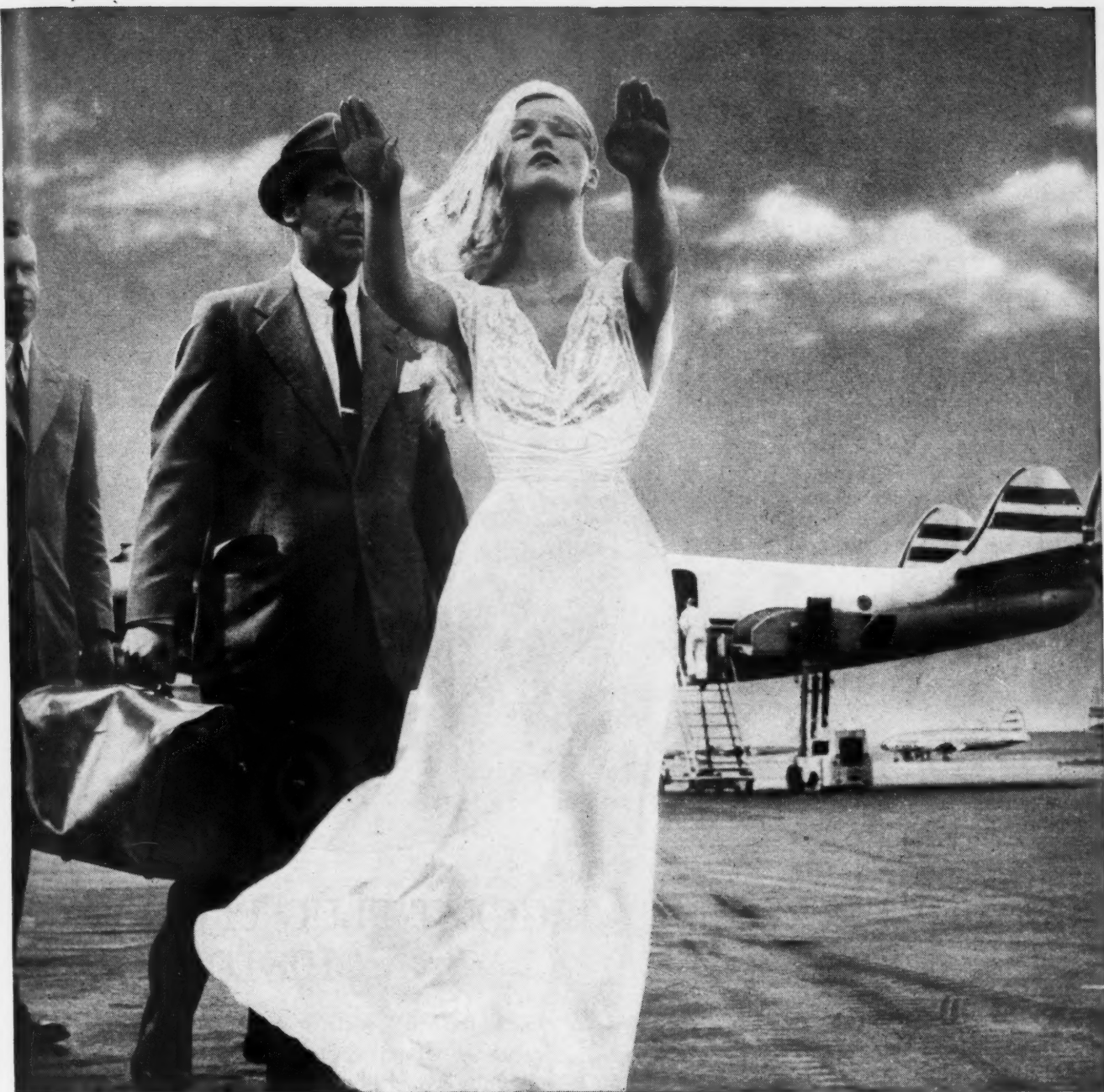
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## ARO

## LUBE EQUIPMENT

ALSO...AIR TOOLS...HYDRAULIC EQUIPMENT  
...AIRCRAFT PRODUCTS...GREASE FITTINGS





## The sleeper that took the 12 noon plane

Would you have been caught napping in a situation like this?

Suppose you were in the fashion business. You have just created a line of women's nightgowns that are going to be given an unexpected publicity break in some top national magazines. This will mean more sales all over the country. But you must get more merchandise to the

stores in a hurry — or forever lose your golden chance to get sales.

What would *YOU* do?

This happened to one company recently—but the problem caused them to lose no sleep. Faced with this situation at 10:30 A.M. they were able to start goods flowing to the stores on planes that left at noon.

The answer was Air Express!

But you don't have to be in the fashion business to profit from the regular use of Air Express. Here are its unique advantages which any business can enjoy:

**IT'S FASTEST** — Air Express gives the fastest, most complete door-to-door pick up and delivery service in all cities and principal towns, *at no extra cost.*

**IT'S MORE CONVENIENT** — One call to Air Express Division of the Railway

Express Agency, arranges everything.

**IT'S DEPENDABLE** — Air Express provides one-carrier responsibility all the way and gets a *receipt upon delivery.*

**IT'S PROFITABLE** — Air Express expands profit-making opportunities in distribution and merchandising.

For more facts call Air Express division of Railway Express Agency.





# SPARK PLUGS



## BIGGEST PLUG PROMOTION IN AC HISTORY!

Now, at the height of the Spring Tune-up season, AC gives dealers the most tremendous advertising and promotion support ever known for a single month. Full and half-page ads, featuring the robin picture, appear in Saturday Evening Post, Country Gentleman, Progressive Farmer and other leading publications.

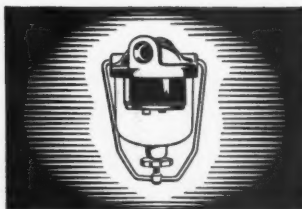
WINDOW POSTER, with the picture shown at left, goes to every Registered AC Dealer.

If you're not registered through AC, you're missing a golden opportunity. See your AC wholesaler at once.



### AC FLEXIBLE GASOLINE AND OIL LINES

Also Make-up Kit, complete with 12 feet of hose and variety of fittings.



### AC GASOLINE STRAINERS

Packed in Counter Merchandiser for display and easier sales.



AC Aluvac Oil Filter Element

## AC Aluvac OIL FILTER ELEMENTS *The Fastest-Growing Filter Line*

You can cash in for extra profits with both these AC quality products. AC Aluvac Elements . . . with twice the dirt-trapping capacity of the average element and nearly twice the life . . . offer a new standard of quality in the filter element field. With Buick now standard equipped, with Oldsmobile continuing AC as factory installed-accessory, and Chevrolet and Cadillac using AC as factory optional equipment, the market for AC Aluvac Elements is booming. AC Oil Filters answer the growing demand for complete filter installations with a type and size for practically every engine.

**AC**

**OIL  
FILTERS**

## America's First and Finest FUEL PUMPS *There Are None Better*

Nine out of ten of all new American automotive vehicles were factory-equipped with AC Fuel Pumps. AC has led the fuel pump parade since it originated the fuel pump 24 years ago . . . 100,000,000 built, 40,000,000 in daily use. Here's an enormous market for replacement sales . . . an easy-to-sell market because vehicle owners know, from their own experience, the dependable performance AC Fuel Pumps assure. Put AC's in stock and get the sales that come with America's first and finest fuel pump.

**AC**

**FUEL  
PUMPS**

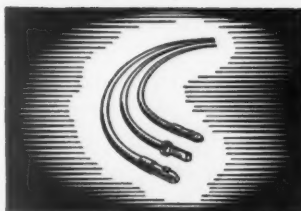


AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION



### AC AIR CLEANERS AND ELEMENTS

AC Air Cleaners used as equipment by 80% of car manufacturers.



### AC SPEEDOMETER CABLE-CASING ASSEMBLIES

Also tailor-made cables, or bulk cable and casing, with parts.



**The right start for a perfect finish...the 3M System for Appearance Reconditioning**



## Do it right the first time...with the right adhesive!

**STOP EXPENSIVE CALL-BACKS** by using the right autobody adhesive for every job. These time-wasting do-overs consume the profits of your business—and they are destroyers of customer good-will. The perfect autobody service job is one that's done just *right*—on the first call.

That's why you need 3M *Specialized Adhesives*—each one tailor-made to do a specific job, to do it right the first time.

Working with rubber, metal, glass and fabric, you need carefully compounded adhesives that bond to the surface, stay on the job. There is no "all-purpose" material that can meet all the requirements of today's body shop... there IS a "3M" **SPECIALIZED ADHESIVE** for every material, every kind of work!

Don't take a chance! Use the complete line of 3M *Specialized Adhesives*... the same adhesives as those used on the automotive production lines.

**Do better work in less time . . . .  
with these 3M Specialized Adhesives**

"3M" Weatherstrip Adhesive • "3M" Autobody Sealer • "3M" Body Caulking • "3M" Clear Auto Glass Sealer • "3M" Trim Cement • "3M" Felt Pad Adhesive • "3M" Autobody Deadener • "3M" Convertible Top Sealer • "Underseal" Rubberized Coating.

SAVE MANPOWER  
WITH  
3M ABRASIVES  
3M ADHESIVES  
"SCOTCH" BRAND  
MASKING TAPE



Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives.  
General Export: Minnesota Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y.

*They fit right...work right*

**MOPAR**  
PARTS

**MOPAR**  
PARTS



You can get MoPAR parts and accessories from Plymouth, Dodge, De Soto and Chrysler dealers and from general service and repair shops everywhere.



To help you do a better job . . . these genuine Chrysler Corporation parts and accessories are factory-engineered and factory-inspected. They are made especially for Plymouth, Dodge, De Soto and Chrysler cars . . . and for Dodge "Job-Rated" trucks.

**CHRYSLER MOTORS PARTS CORPORATION, DETROIT, MICHIGAN**



## NEGLECTED WIRES *cause* **FIRE!**

Defective wires and cables are the worst fire hazard in cars, trucks, buses. Here's proof!

In Chicago alone, 3,633 motor vehicles burned up in 1949. Of these, 2,298—that's 63%—caught fire because of defective wiring!

National Safety Council figures like these tell the same story all over the country — with “caused by defective wiring” fires running as high as 92%!

Remember this! Motor Age editorial investigation of 1940-47 cars proves that:

- 5 out of 10 need light wires!
- 6 out of 10 need battery cables!
- 2.5 out of 10 need ignition wiring!

Eliminate this fire hazard from the cars, trucks, and buses that come into your

shop by checking the wire and cable on every job! Don't compromise with your customers' safety. Show them the danger of cracked or worn insulation or corroded conductors . . . remind them that when the fire trucks roll, it's too late to prevent dangerous shorts.

*And remember this!* When you replace dangerous wiring with genuine Crescent Wiry Joe ignition wires and cables you not only eliminate the fire hazard, but improve engine performance in the bargain.



THE CRESCENT COMPANY, INC., Pawtucket, R. I.

*Check the wire and cable on every car!*





# DEALERS KNOW...

## *Original Equipment is the Answer to Spark Plug Sales*

### RESISTOR

Offers car owners new advantages found only in automotive type spark plugs with built-in resistors. Original equipment on many leading makes of America's finest cars.

### STANDARD

Ignition engineered by ignition engineers for unsurpassed performance. . . . Specified as original factory equipment by leading manufacturers of cars, trucks and tractors.

### TRANSPORT

Rugged construction and aircraft type insulator combine to give lowest cost per mile of spark plug operation. . . built to take it. . . another Auto-Lite original factory product.

## AUTO-LITE SPARK PLUGS

ARE ORIGINAL EQUIPMENT ON  
MILLIONS OF CARS, TRUCKS AND  
TRACTORS IN USE TODAY. THIS TRE-  
MENDOUS READY-MADE MARKET IS  
YOURS WHEN YOU SELL AUTO-LITE.  
SEE YOUR JOBBER TODAY.

THE ELECTRIC AUTO-LITE COMPANY  
Merchandising Division

Toledo 1, Ohio

Toronto, Ontario



A CARTOON FROM THE SATURDAY EVENING POST.

**"I don't see why you should speak to me like that, dear.  
I just asked you if you wanted a daisy for your buttonhole."**

Guess what friend husband is going to say to the dealer who sold him the widget that was "just as good as" the national brand he asked for! Scratch one customer.

Don't risk losing *your* customers. Let someone else stock the "just as good" lines. *You* sell the ones that your customers ask for and expect, the ones that will keep them satisfied—the nationally advertised, Post-advertised brands.

The Post carries more automotive advertising to more people than any other magazine in the world. That's why *Post-advertised lines* are the *fastest-selling lines*.



**-gets to the  
heart of America**

**Improved Design Means Improved Performance**

**# MOOG  
K136**



**COIL ACTION PARTS**

## **INTERMEDIATE STEERING ARM KIT**

**for 1949-50-51 CHEVROLETS**

This will solve a "real, front end service problem"! The Moog #K136, Intermediate Steering Arm Kit, has a redesigned pin with a grease channel, or trough, all the way around to lubricate all wearing surfaces. This insures longer life and trouble-free performance. Ask your Moog distributor about this improved replacement part.

**MOOG INDUSTRIES, INC. ST. LOUIS 14, MO.**

Divisions:  
MOOG COIL ACTION PARTS CO.  
MOOG PISTON RING COMPANY  
ST. LOUIS SPRING COMPANY



**MOOG DESIGNS AND  
MAKES A PART TO DO  
A BETTER JOB THAN  
THE ONE IT REPLACES**







Look ahead...  
be ahead  
with  
**MAREMONT**

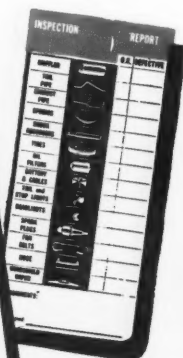
**Increase your Sales with the  
PROVEN POWER  
of this  
NEW MUFFLER  
SALES CAMPAIGN**

Maremont Sales Campaigns are proven on the basis of results. The thousands of aggressive franchise dealers who use our new sales helps season after season know that Maremont campaigns make sales... sales that otherwise might have gone somewhere else. The new sales helps are now ready for your spring and summer muffler merchandising program. They are available free to every Maremont franchise dealer... and to all other dealers who look ahead and want to be ahead with Maremont.

For full details, see your nearest Maremont wholesaler, or write to the factory.



3-COLOR POSTERS  
for wall, window or counter



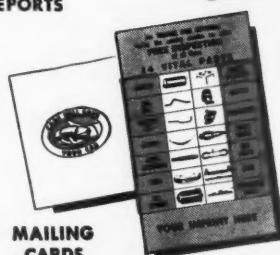
INSPECTION  
REPORTS



INSIDE STORY  
give-away BOOKS



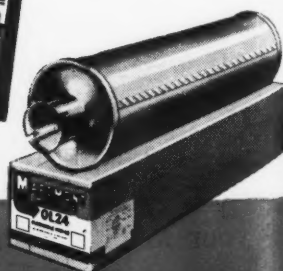
WINDOW SPOTS



MAILING  
CARDS



QUICK QUOTER  
CATALOGS



**MAREMONT  
MUFFLERS**

SINCE  
1927

ALSO MANUFACTURERS OF  
MAREMONT SPRINGS AND HELPER SPRINGS

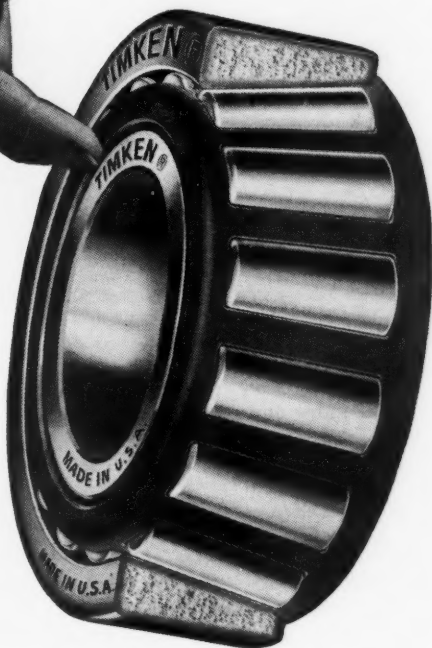
MAREMONT AUTOMOTIVE PRODUCTS, INC., South Ashland at 16th, Chicago 8, Ill.

## Want customers to keep you in mind?

Customers remember the repairman whose workmanship and repair parts are the best. So let customers *know* about your high quality service. Point out the trade-mark "Timken®" on the tapered roller bearings you install. It's the most respected name in bearings.



## Just tell 'em it's "TIMKEN®"

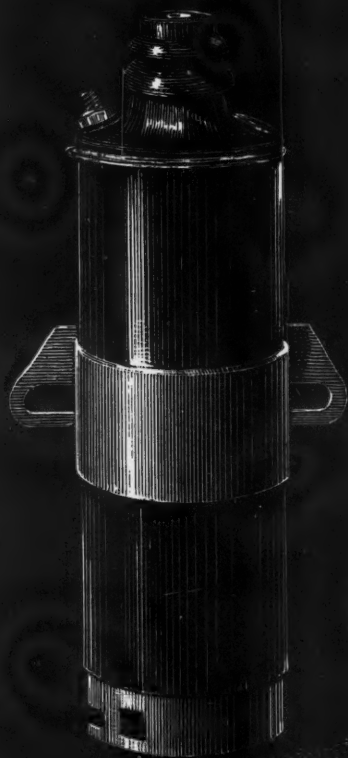


You'll find Timken bearings in most leading makes of cars, trucks, tractors, and busses. That's because Timken tapered roller bearings alone give you all these advantages: 1) advanced design, 2) special analysis Timken steels, 3) precision manufacture, 4) rigid quality control.

Make sure the trade-mark "Timken" is on every tapered roller bearing you use. NEW, FREE BOOK—"TIMKEN TAPERED ROLLER BEARINGS, THEIR CARE AND MAINTENANCE". Write Dept. AM-4, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

**TIMKEN**  
TRADE-MARK REG. U. S. PAT. OFF.  
**TAPERED ROLLER BEARINGS**

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION



**ANOTHER ONE OF BLUE STREAK'S  
36,000 BOOSTERS!**

When your customer presses the starter button and his battery is weak, that's when he'll really be grateful to you for having installed a Blue Streak coil.

This world-famous coil starts like a streak of lightning on as little as 2 volts. At high speeds, it can deliver sparks faster than the most powerful car on the road requires, *even at 100 m.p.h.* The triple-protection top (another Blue Streak "first") makes this coil waterproof, and protects it against high-tension flashover.

For all this extra duty, you pay only a little more. Ask for Blue Streak the next time you order coils—as well as points, voltage regulators, dimmer switches, relays, distributor heads, condensers, battery and ignition cables. *Standard Motor Products, Inc., Long Island City 1, New York.*

***Better your Business...  
Buy Blue Streak***



"We've been using Blue Streak ignition parts for 20 years and rate them 'tops.' I know our customers are satisfied because we get a very high percentage of repeat business," writes *Peter Legendre, general manager of Janssen's, one of New Orleans' best known service stations.*



COILS • POINTS • CONDENSERS • VOLTAGE REGULATORS • HEADLIGHT RELAYS • DISTRIBUTOR HEADS & ROTORS • DIMMER SWITCHES • WIRE & CABLE



**Q** Question: ...do **97%** of your customers return regularly for service?

**A** Answer: **E. H. Shuck's customers DO!**

And there's a reason! This Newbern, Tennessee, Ford dealer recognizes that his lubrication department is more than just a place to sell odd grease jobs—at \$1.50. Teaming up with Alemite's *customer attracting* "Magnet Plan" he's built his lubrication department into a top money-maker (now has over 700 "regulars" on his list). In addition he's turned it into a steady "feeder" department for building parts and service business all through his shop. The result: 97% of his new car customers now return to *him* for service!

## THE ALEMITE "MAGNET PLAN" will show you how!

Fully tested! Fully proved by Alemite—the oldest, most reliable name in lubrication. This "Magnet Plan" is your key to more profitable service business all through the year, in *every* department. Simple, easy-to-follow, it brings you the "result-getting" ideas and services that pull in customers, build more regular business, and pro-

duce more repeat business year after year. Find out *first hand* how well these exclusive Alemite "Magnet Plan" features fit your needs, your manner of operation and most of all your desire to get *more* good-paying service business *more often*! Call your Alemite Distributor or write Alemite, 1826 Diversey Pkwy., Chicago 14, Ill.

*Check these...*

### Alemite "Magnet-Plan" Services Only Alemite Gives You All 11— Fully Tested, Fully Proved!

1. Counsel and concrete assistance from one of the 300 Alemite Service Promotion Specialists.
2. Powerful Alemite National Advertising—year after year—pre-selling lubrication prospects for you.
3. "Business Expander" follow-up systems.
4. "Prescribed Lubrication" program.
5. Sales-building seasonal campaigns.
6. "Gusher Plan" . . . to build motor oil sales at the service bay.
7. "Sales and Service Security Plan" including the 30,000-mile guarantee for new and used cars and trucks up to 1 ton.
8. Monthly Analysis Sheets, to prove increased service sales.

### Alemite Equipment for—

9. Specialized Lubrication Service.
10. Electronic Wheel Balancing Service.
11. Underbody Coating Service.

### Sensational Alemite

## 30,000 MILE GUARANTEE

The most liberal ever offered! To your customers it's a bonus from you—protection IN WRITING against failure of any lubricated part in motor, chassis, and gears due to faulty lubrication for 30,000 miles or 2½ years, whichever comes first. Ties your customers to you for the length of the guarantee.



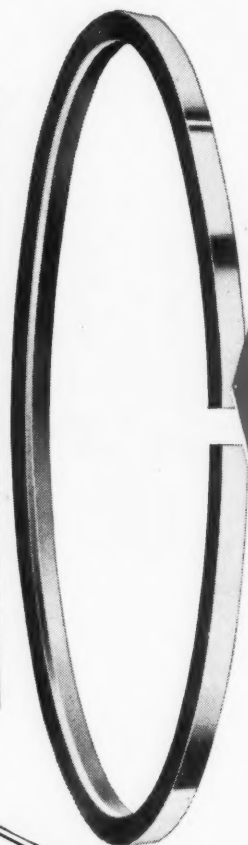
**ALEMITE**  
The Oldest, Most Reliable Name in Lubrication

# Sealed Power Piston Rings



## MD-50 STEEL OIL RING

The only ring with the  
FULL-FLOW SPRING  
Best for Oil Control  
even in  
**BADLY TAPERED  
and  
OUT-OF-ROUND  
BORES!**



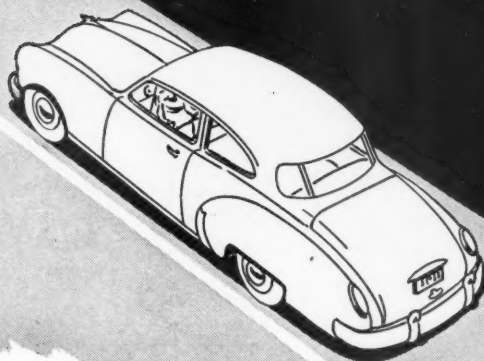
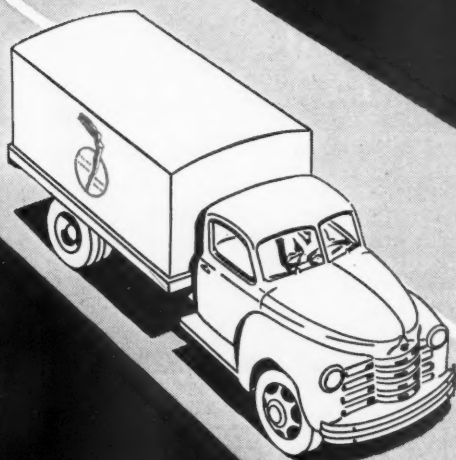
## CHROME FACED RINGS

For Triple Mileage

Latest scientific  
development to

## FIGHT

HEAT  
FRICTION  
CORROSION  
ABRASION



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

# Sealed Power Piston Rings

BEST IN NEW CARS!

BEST IN OLD CARS!

## MOTOR AGE

April • 1951



This is the Super 88 . . .

# newscene..

### Critical Shortages Hit Many Parts Suppliers

A check with parts suppliers indicates that critical shortages exist in a small but important group of functional items. These include sheet steel parts, cylinder assemblies and sleeves, engine bearings, and parts made of alloy steel. One large automobile company has called in about 20 critical items from the field to its central warehouse at Detroit and is filling parts on "wire orders" from dealers who have cars down and need that particular item. The feeling in Detroit is that the proposed system of DO ratings would ease the situation within three or four months since it would take that long to get the system established and get materials procured and processed. Meanwhile, the situation will continue spotty with all companies attempting to control distribution to insure equitable distribution to jobbers, dealers, and repair shops. Criticisms

that material has been diverted from parts production to new vehicles is not borne out by figures of two large automobile companies showing that shipments of parts to the field so far this year have increased.

### Rocket Engine CR Raised On Oldsmobile's Super 88

Oldsmobile's Super "88" has been announced for 1951 with a number of styling and mechanical changes. The car is equipped with new leaf-type rear springs. With the new six-point suspension system, the chassis is supported at each end of the 58-inch long rear leaf springs and by the coil springs in front.

Compression ratio of the 135 horsepower Rocket engine has been increased to 7.5 to 1. The combustion chamber has been redesigned to obtain better efficiency. This will capitalize on high compression advantages even if premium fuel octane numbers are lowered some-

what in the national emergency. However, Oldsmobile engineers still recommend the use of premium fuels for best performance. Other mechanical improvements include a new downdraft carburetor with quicker starting and non-flooding characteristics, an improved distributor to provide greater voltage, moisture-proof silicon rubber insulating sleeves for the spark plugs and a redesigned wiring harness.

### Cadillac Will Drop 61 Series Temporarily

Cadillac has started to reduce production of its 61 model and it soon will be temporarily out of the line. The model is not being permanently discontinued, but will be reinstated if and when supplies of materials improve. Suspension of the 61 simplifies the line and saves critical materials. Currently the demand for the 62 is about four times greater than for the 61. Thus, Cadillac will have three cars, a 62, 60 Special and 75.



## OPS Authorizes Use of Guide Books for Used Car Sales

In an order released recently, the Office of Price Stabilization, authorized the use of several additional guide books for pricing used car sales. It also permits the use of several republished volumes. Officials pointed out that a number of official books have republished their prices to conform with the requirements of OPS regulations. In some instances guide books, which had not previously included prices for equipment that used car dealers are allowed to charge as extras, have incorporated prices for such equipment in line with prices published with other guide books published in January. The authorized list follows:

American Auto Appraisal, March-April supplement; Blue Book-Executives Edition, January issue or January reprint; Kelley Blue Book Official Guide, January issue; Market Analysis Report, January issue or price edition; N.A.D.A. Official Used Car Guide, January issue or March, 1951, edition; Northwest Used Car Values, January or March, 1951, issue; Official Used Car Survey, March-April supplement; Wisconsin Automobile Valuation Guide, January issue or February 15, 1951, edition; Red Book National Used Car Market Report, January issue or January reprint; Official Automobile Guide (National Research Bureau), price edition; Official Automobile Guide (Recording and Statistical Corp.) price edition.

## Gasoline Quality Not To Be Reduced

The quality of gasoline may not be lowered as much as had been earlier expected as a result of the tight tetraethyl lead supply. The Petroleum Administration for Defense has substituted an allocation system for the previously proposed cutbacks for octane ratings. In effect, the refiners will have their supplies of tetraethyl lead fluid curtailed by amounts up to 19 pct but will be allowed to use their available supplies any way they choose. It is estimated that if the cut were to be applied across-the-board by the refiners, the result would be to reduce octane ratings on an aver-

age of about 1.5 points. If defense needs continue to increase substantially it still may be necessary to impose octane ceilings at some future date, the PAD warns.

## DO-97 Ratings Must Be Used With Great Care

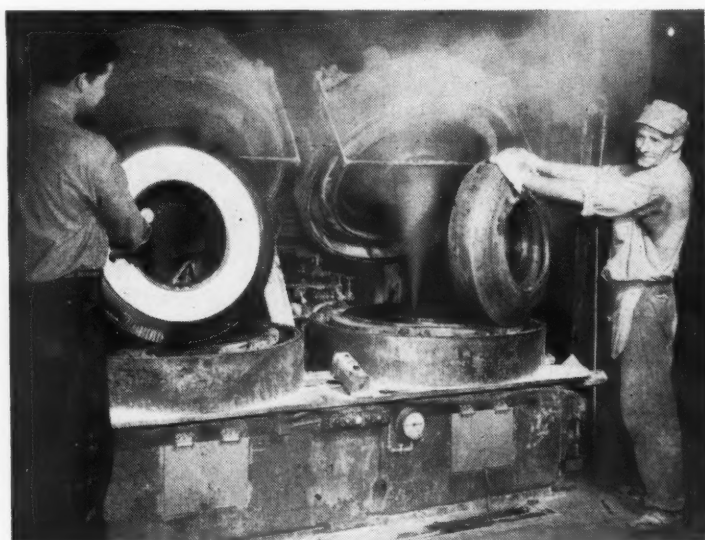
Automobile dealers and repair shops are permitted to use DO-97 ratings to obtain needed replacement parts. They should, however, use caution in adopting the ratings because the provision in the MRO order states that once DO's are employed the user is held to a quota on purchase of repair parts limiting him in each calendar quarter to one-quarter of the dollar value of the parts bought last year. With prices higher and with parts needs expected to be greater this year, such a limitation might actually result in the buyer getting less physical volume of parts than last year whereas he may have requirements for a greater amount. Many dealers and shops are preferring to shy away from the DO ratings for this reason preferring to take their chances on getting a greater volume of parts through their regular channels.

## Car Makers Reduce Field Sales Forces

Not much has been said about it but several automobile manufacturers have quietly cut their field sales forces. The reason is that with the expectation that the materials shortages will reduce passenger car production substantially later this year and with current demand exceeding supply, field sales activity is being reduced and expenses are being cut in line with expected smaller volume.

## Dealer Case Against GM to Be Retried

The long drawn out and important Emich Motors Corp. suit against GM for damages resulting from franchise cancellation is to be retried in Federal court in Chicago under the original trial judge. Three years ago Emich—former Chicago Chevrolet dealer—won a jury verdict against GM and was awarded damages of \$1.236 million. However, the decision was reversed on technical grounds by the U. S. Court of Appeals which was upheld by the U. S. Supreme Court which remanded the case for retrial.



## Take a Good Look . . .

Here's the last of the white side wall tires for the duration of the emergency rolling off the production line of the B. F. Goodrich Company. Officials say, however, that the company now should be able to produce more black tires as the white walls require eighteen additional operations. The whites also require large quantities of titanium dioxide and zinc oxide, both essential materials.



The girls are just there to make you look at the truck. The truck is a submarine vehicle undergoing under-water tests at Rainbow Springs. It is designed to ford streams or move from landing ships through surf, under its own power. The two and one-half ton six-wheeler has power to all six wheels. When it is completely submerged only the air intake and the exhaust (snorkel and snorter) are above water. Five tons of concrete in the body of the truck held it down.

### Bright Work on Cars Seems Likely to Remain

Dire predictions made the first of this year that bright work would disappear from passenger cars within two or three months have not materialized, and it now seems likely that the flash and glitter will remain indefinitely in one form or another. So far the industry has fared much better than was expected and various rules and regulations have had little effect on bright work. Orders on nickel and copper have been modified to some extent and it now looks as though when present nickel inventories are exhausted, manufacturers will go to chrome plating directly on copper, possibly with an overlay of clear lacquer or plastic. Durability of such finishes have not been tested thoroughly but it is thought that they will be satisfactory. Stainless steel trim will remain in use, since practically all of it used by the industry is of the straight chrome type containing no nickel. Current regulations permit use of copper-nickel-chrome plate on

bumpers, hub caps and door handles, which get the severest wear. Prior to the modification of the copper order to permit its use in plating of automotive trim, alternate methods had been developed including a zinc chromate treatment overlaid by clear plastic which is said to be quite similar to chrome plating in appearance, although not quite as bright.

### Greater St. Louis Auto Assoc. Elects

At the annual meeting of the Greater St. Louis Automotive Association, Inc., held at the Congress Hotel, St. Louis, the following members were elected to serve as directors for a term of two years: Chris Christen, Chris Christen Pontiac Co.; M. Ray Crocker, Community Motors, Inc.; James W. Mueller, E. B. Jones Motor Co.; Byron H. Roberts, West End Motors, Inc.; Waldo W. Wilson, Castles, Wilson Buick Co.

At a meeting of the Board of Directors held Thursday, March 22nd, the following officers were elected to serve for one year: President, Waldo W. Wilson,

Castles, Wilson Buick Co.; Vice-Pres., J. Rush James, Sr., James Chevrolet, Inc.; Treas., George M. Berry, Berry Motor Car Co.; Secy.-Mgr., Joseph A. Schlecht, Asst. Secy., Fay Hahn.

### Pontiac Awarded Two Major War Contracts

Pontiac Div. of GM has been awarded its first two major contracts under the present defense program. It will build a completely new amphibious cargo carrier, a tracked vehicle with a stern propeller for water operations. Initial value of the contract is \$45 million. Pontiac also has an Army Ordnance contract for a large number of rockets. Value of the initial order is \$12.5 million.

### Chamberlain of NADA Joins DTA

Ray Chamberlain, formerly executive vice president of NADA, has been assigned a high level position with Defense Transportation Administration. His duties will include estimating requirements for new automobile production and making recommendation on amounts of materials needed for replacement parts.

### Kaiser is Showing Four Sedans With Special Upholstery

Specially built for 1951 automobile shows, "Safari" is one of four exotic Kaiser sedans. This one is upholstered throughout in zebra and lion skin. The other three are the "Explorer," which is trimmed in polar bear; the "Caballero," upholstered in Palamino horsehide,



and the "South Seas," which the company cryptically states: "Features an interior of Hawaiian flora." All four made their debut in the National Automobile Show in Chicago.





Ben Berlin is presented with a miniature Bel Air by W. E. Fish, General Sales Manager of Chevrolet, at a Detroit banquet. Berlin, employed by the Park Circle Motor Co., of Baltimore, is the only salesman to make the Chevrolet 100 Car Club for 25 consecutive years. During his quarter of a century career, Berlin has sold 3400 new passenger cars, 1300 new trucks and 1400 used cars and trucks for a total of 6100 units. In addition to the miniature car, he received a specially designed diamond pin, signifying his 25 year record.

### Ford to Erect New Parts Depot in New Jersey

Ford Motor Co. is going to build a large new service parts depot and sales office in Teterboro, N. J. The depot is to be built on a 22-acre site and will have about 380,000 sq. ft. of floor space. Equipment will include the latest materials handling and stock control devices. The depot will serve approximately 500 Ford and Lincoln-Mercury dealers in nine states.

### Economy Run Changes Suggested by Nash

There have been some repercussions following the Mobilgas Grand Canyon Economy Run but one of the most interesting and probably one of the most valid is that voiced by Nash. The company points out that the ton-mile basis of the test is not an absolute economy test but rather a measure of efficiency. A spokesman said that under the present basis of

emphasizing ton-mile performance over miles per gallon, no popular priced car could ever win the event and that to carry the matter to an absurd conclusion a large diesel truck loaded with scrap iron could enter the race and win handily. Nash's entry—a 6-cylinder Rambler—set a new alltime record of 31.05 mpg but that accomplishment was almost ignored because of publicity emphasis on the sweepstakes winner on a ton-mile basis. Nash says that if the test is to be continued under the label of an economy run, two winners should be announced with the first being the car with the best absolute miles per gallon performance with the other winner on the ton-mile basis subordinated. In further support of its position, Nash says the current economy test is an outgrowth of the old Gilmore Trophy before the war in which miles per gallon was the deciding factor and that the public generally does not understand the ton-mile rating nearly as well as miles per gallon.

### Congressional Bill To Increase Gas Tax

An attempt is being made in Congress to impose a statutory ceiling of  $1\frac{1}{2}$ ¢ per gallon for federal gasoline taxation. Such a bill (HR 3201) has been introduced by Rep. Edwin A. Hall, R. of N. Y., but the odds are that it will not even reach the floor for consideration and debate. Any action on the bill must start with the Ways and Means Committee which also has before it the Administration-Treasury proposal that federal gasoline taxes be increased. Another bill (HR 136), would extend to all gasoline consumers the right to deduct from their income tax returns the state taxes paid on gasoline. This is not now permissible in all states. In late March the measure needed only Senate approval to become law.

### Lincoln-Mercury Forms Service Manager Council

The increasing importance of automobile service has been recognized by Lincoln-Mercury through formation of a national council of dealers' service managers. Principal purpose of the council is to provide more direct exchange of information on service activities and problems between the men in the field and factory service personnel. Two representatives from dealers in each of the five L-M sales and service regions will be elected to serve on the council which will hold its first meeting in Detroit April 16-18.

Jesse Owens, famous track star was the radio announcer at the recent Chicago Automobile Show. Here Mayor Kennelly is opening the show, surrounded by show officials





# ... Report to Our Readers



## Salvage and Save

**T**HE real pinch on replacement parts isn't being felt as much as it will at a later date, most observers agree. In the meantime, it would be well to get your mechanics and service men in a thrifty frame of mind about parts made from metals in short supply.

Some examples of savings in scarce metals are: You can resize old pistons to save on aluminum. Lead and cadmium will grow increasingly scarce and thus old crankshaft bearings could be reused but be sure to examine them for pits and scratches. Check for excessive clearances also. Bearings could look okay but still be worn. Use overhaul kits to rebuild water pumps and brake cylinders to save steel. Hard-to-get copper can be saved by repairing starter and generator armatures. These are but a few. There are many more. Salvaging scarce metals may save headaches later on.



## No Time for Spring Fever

**A**CCORDING to some recent figures 55.3 per cent of all the cars in use are pre-war jobs. If they weren't an economic necessity the owners of those cars would have scrapped them long ago.

A.M.A. points out that passenger cars today are either young or old, but there are no in-betweens. In terms of numbers, the national automobile population is greater than ever before. But, in terms of car age and use potential, we are not as well off as we were in 1941. More than a third of the cars in operations are old enough to be scrapped.

Meanwhile, increased population, decentralization of industry, suburban residential trends have greatly magnified the country's basic automobile requirements.

The automobile plays a primary role in our daily life as an essential transport tool. Yet all tools need care and attention to prolong their life and efficiency.

That's why there should be no spring fever for

servicemen this season. The outlook for service business looks very, very good. Better plot your plans to get your share of that business now.



## Speak Up and Express Yourself

**I**F you've got problems and feel inclined to discuss them with the House Small Business Committee, your opportunity may soon be at hand.

Sub-committee No. 1 of the Congressional group under the chairmanship of Representative Mike Mansfield (D., Montana) is on the road to obtain first-hand information on "Problems of Small Business Related to the National Emergency."

Visiting twenty-one states, the committee will sit in Rock Island, Ill.; Davenport, Ia.; St. Louis, Mo.; Little Rock, Ark.; Harrisburg, Pa.; Syracuse, N. Y.; Brooklyn, N. Y.; Paterson, N. J.; Hartford, Conn.; Providence, R. I.; Worcester, Mass.; Manchester, N. H.; Dallas, Tex.; Houston, Tex.; New Orleans, La., and possibly Jackson, Miss. Hearings shown here take place between April 10 and May 3. Nine other cities have already been visited.

Here is an opportunity to voice the feelings of car dealers and independent repairmen on material shortages, price controls, taxes, government procurement, the essentiality of the automobile and other important topics of the day. If you've got something worthwhile to say, you'll find the nine Congressmen serving on the committee willing to listen. And, in addition to the Congressional members of the committee, there will be present representatives of the Office of Price Stabilization, the National Production Authority, General Service Administration and the Munitions Board.

*Frank P. Tighe*

Editor



# How to Pay Your People

"Any incentive plans calls for certain responsibilities for both owner and

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**N**OW off hand you would say that this subject covered a multitude of sins, and I'm ready to admit it, especially if one attempts to cover in detail all the conditions arising in all the varied circumstances, which control the dealers of various make cars and trucks, in cities, rural areas and industrial districts, single and multiple dealership points, low-medium and high priced cars. Then consider changing conditions—that adds to more confusion.

I won't write about actual dollars and cents to pay a parts man or salesman. That would be impossible since no two dealers operate alike, and the wage scale is different in Seattle, St. Louis or Corpus Christi.

Most people work to eat, to make a living.

They don't give their best—without incentive.

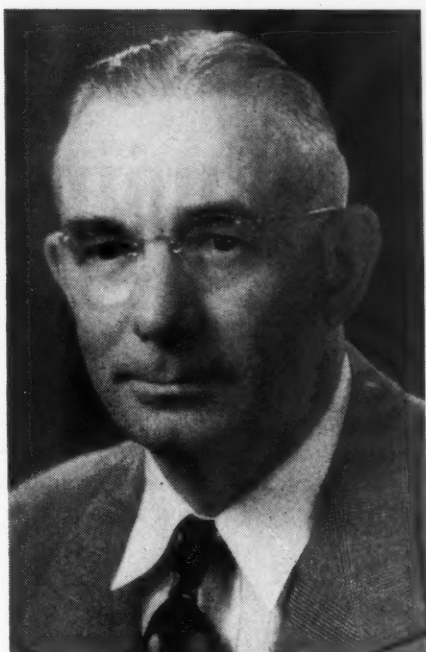
People who work for you on a straight salary generally work for you because they feel they have the best job available, and they obey the rules of your business because they fear the punishment of being fired if they do not give you value received for the dollars you pay them.

We all know that the right kind of an employee will naturally work harder, and will put out more when promised a raise or a better job. In fact, what he or she wants is a chance to make more money and learn more about the business.

Further we all realize that you can't always promise more money and better jobs to everyone.

So my solution is—**put them in business with you.**

There is just one way to pay people so that they will feel they are working with you instead



by **George H. Jones**  
Ford Dealer, Corpus Christi, Texas

employee, but it pays off in larger profits?"

---

of for you. That is an incentive plan—where all productive employees share in the net profits in some manner or other.

Now we will try to break down the business into departments, and give you some food for thought.

Some dealers have a **general manager**. He should have a net salary plus an agreed percent of the net profit.

Next, we will take department heads. All dealers have a shop, parts department, new car or truck department or both, a used car department, and an office. Some dealers have body and paint departments, etc. I won't go into the financing of cars, ranches, U-Drive-It's or boats.

First. Your **service manager** should have a salary plus a per cent of your shop profit, 5 per cent, 10 per cent or 25 per cent according to

your size operation and how much you want him to make. I knew that would bring a chuckle from lots of dealers. You'll say your shop loses money. If it does, you should make some changes. Independent garages can run at a profit, and you are supposed to be better business men than they are.

You put your **Service Manager** on a fair salary plus a bonus on his net profits, and then listen to him a little bit, and you'll be making a net profit in your shop. You did it during the last war and it can be done now. Shop profits are being made.

Your **Parts Manager** should have a living wage in accordance with your area wage scale, plus at least 5 per cent of your net profit in that department. I mean net.

Some dealers have found it advisable to tie their Parts Department and Shop together and the nets of both departments together. Then pay the Service Manager and Parts Manager 5 per cent each of the net. It makes them work together for harmony plus **profit**. Tying the two departments together eliminates the question as to Parts Discount.

Your **New Car Sales Manager** should have a fair salary in accordance with the size of the town and what it would take for him to live with people of his standing. I would say from \$300.00 a

month in a small town to \$600.00 a month in a city, plus 5 per cent of the net wash-out of his department. You just can't know how precisely to run your business. So make arrangements to put in a standard form of wash-out sheets. The N.A.D.A. business management committee will be glad to furnish you full information, either by bulletin or in the magazine.

If you work one truck man exclusively—the best compensation plan is to work him on a 10 per cent to 25 per cent of the net wash-out on trucks—giving him a drawing account to be charged against his commission. **Caution.** Watch the used truck stock. If you know anything about trucks you know what I mean.

Your **Used Car and Truck Manager** should be paid a fair salary plus 5 per cent to 10 per cent of your used car department net profit.

*(Continued on page 94)*

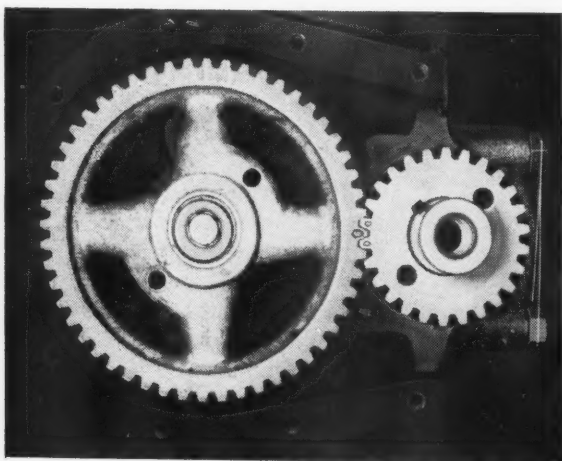


## More About the

# Studebaker V-8 Engine

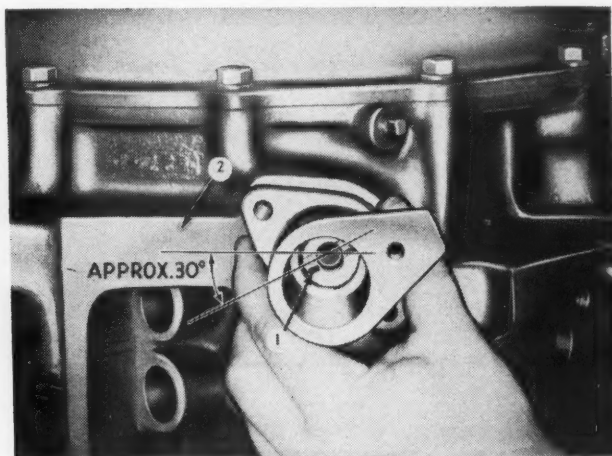
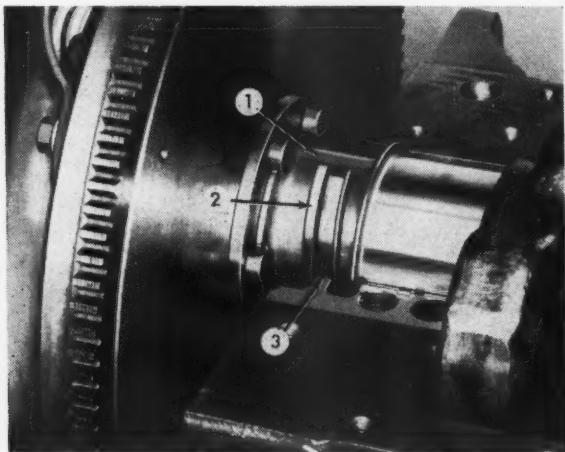
**A**MONG the service features on the new Studebaker overhead-valve V-8 engine are a self-locking type adjusting screw on the rocker arm to make valve lash adjust-

ments easier, and cylinder heads which are interchangeable from left to right. Shell type slip-in bearing inserts are used and the wrist-pin is clamped in the rod as in previous Stude-



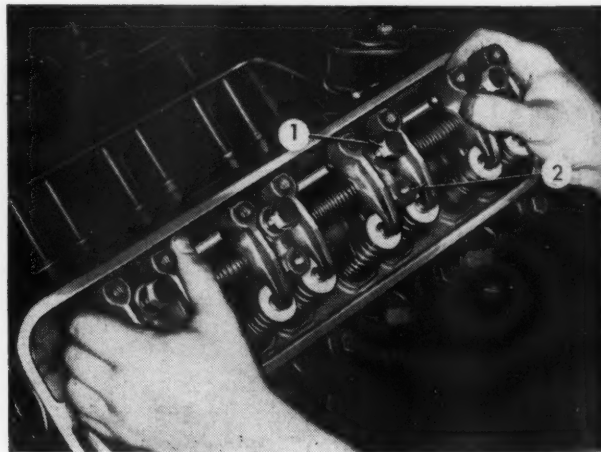
The engine is properly timed when the timing gear punch marks are in the above position and number six cylinder is in firing position.

To install the rear seal (2) between flange (3) and shaft (1) apply liquid soap and rotate both halves into position out 45 deg.



The distributor shaft is installed with No. 1 piston in firing position and with the slot (1) thirty degrees from the rear flange.

Remove the rocker arm and the shaft as an assembly with the cylinder head cap screws (1) in the rocker arm bracket (2).



**Interchangeable cylinder heads  
and self-locking tappet screws  
highlight the many new features**

baker engines. The valve springs are fitted with vibration dampers to maintain proper valve action and to reduce noise.

Following is some useful information cover-

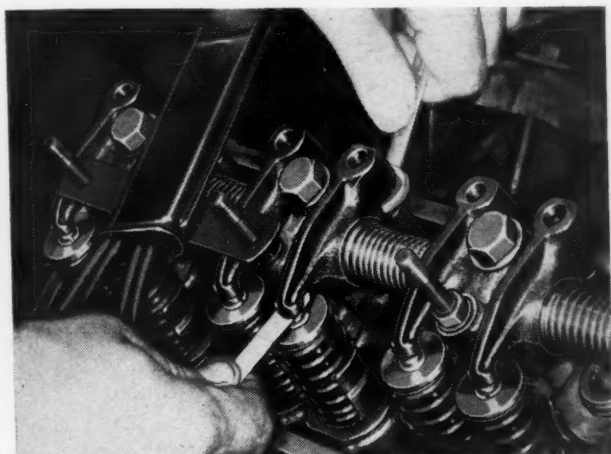
by Jack Montgomery, Technical Editor

ing general and service specifications.

**Engine.** Starting serial number V101 V-8— $3\frac{3}{8}$  in. x  $3\frac{1}{4}$  in. Displacement 232.6 cu. in. Maximum brake horsepower 120 at 4000 rpms. Compression ratio 7.0 to 1. Standard compression 120 to 140 at 150 rpms. Firing order 1-8-4-3-6-5-7-2. Tighten cylinder head bolts to 46-50 ft. lbs. torque.

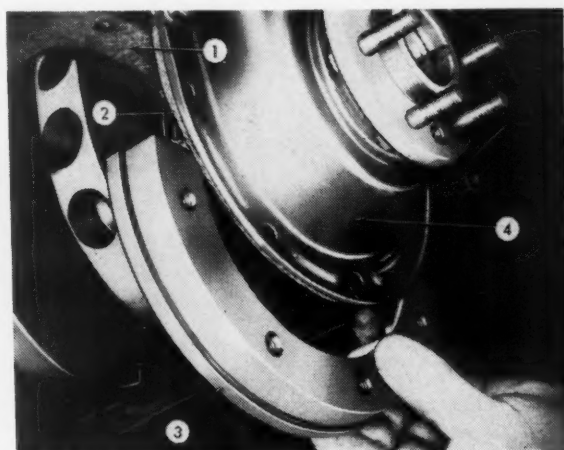
**Pistons.** Aluminum T-slot selective fit to the cylinders. The pistons are removed from above.

**Valve timing.** Intake valve opens 11 degrees



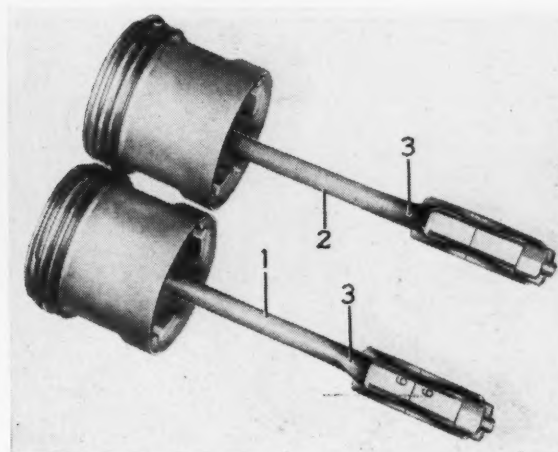
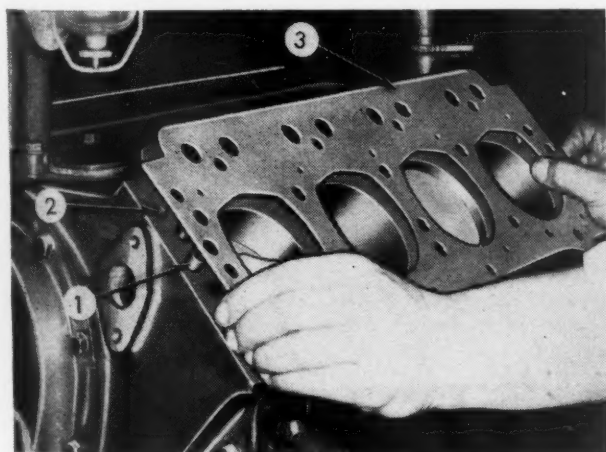
Adjusting the valve tappets. Notice the location of the adjusting screw. The silencers are seen at the base of the springs.

Installing cylinder head gasket. Keep the oil return hole through the hollow dowel (1) open. Apply gasket sealer (2) between the gasket and block.



The pan gasket (1) is replaced by removing the filler block (3). The gasket (2) at the gear cover (4) is renewed by cutting a complete gasket.

Right bank rods (1) have numbers stamped on the squirt hole side (3). Left bank rods (2) have numbers on opposite side.



## ... Studebaker V-8 Engine

before top dead center. Valves are correctly timed when the punch mark on the camshaft gear is in between the two punch marks on the crankshaft gear.

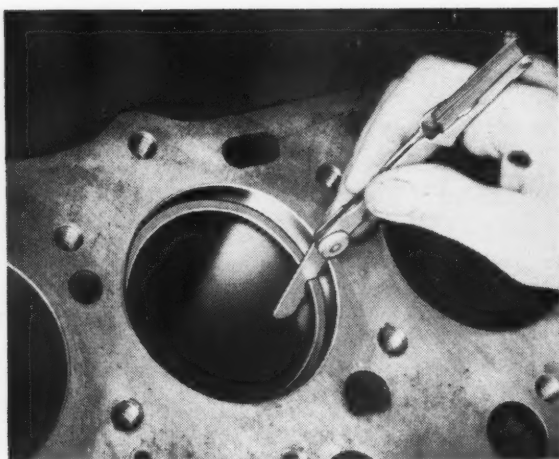
**Distributor.** Delco Model 1110822—vacuum advances 16 degrees. Centrifugal advance is 28 degrees at 2600 engine rpms. Breaker point gap .013 to .018 in. Breaker arm tension 17 to

21 oz. Cam angle is 22 to 29 degrees.

**Ignition timing.** 8 degrees before dead top center. Timing marks are located on the vibration damper.

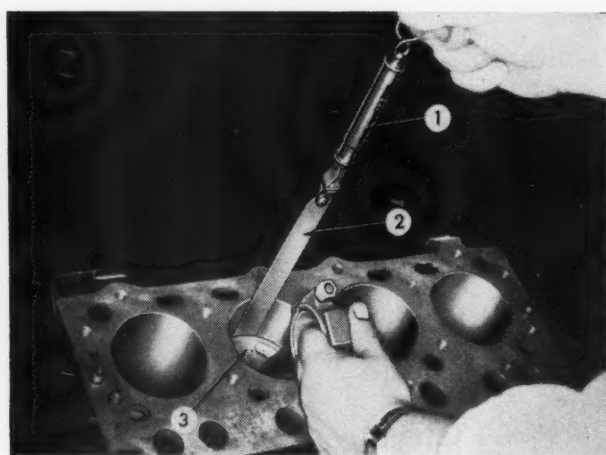
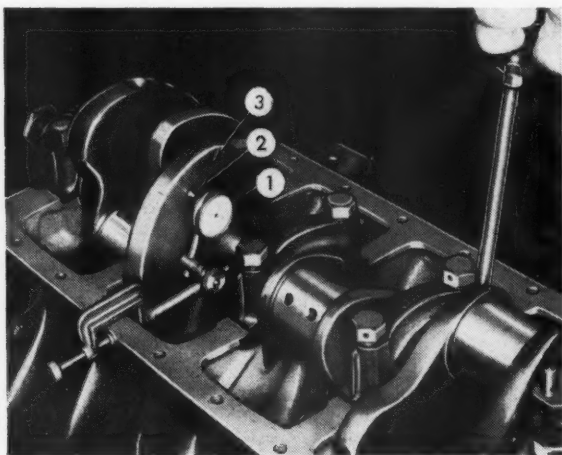
**Spark plugs.** Champion Model H8. Set gaps to .0325 to .0375 inches.

**Carburetor.** Stromberg Model AAJVB-26— $1\frac{1}{8}$  inch throat. Turn idle screws in or clock-



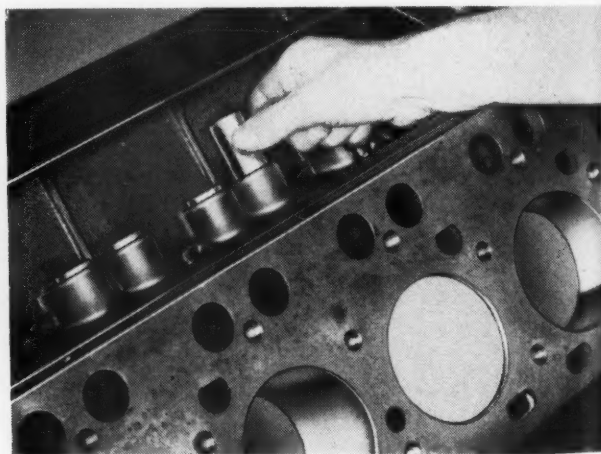
Check the piston ring clearance with a feeler gage. Rings should have from .008 to .016 inch gap.

Checking the crankshaft end play with a dial indicator. (1) Button (2) contacts the crankshaft (3).



Checking the piston fit with a 12 inch feeler gage (2) and a spring scale (1).

Removing the barrel type valve lifter. Lifters should be a free fit.





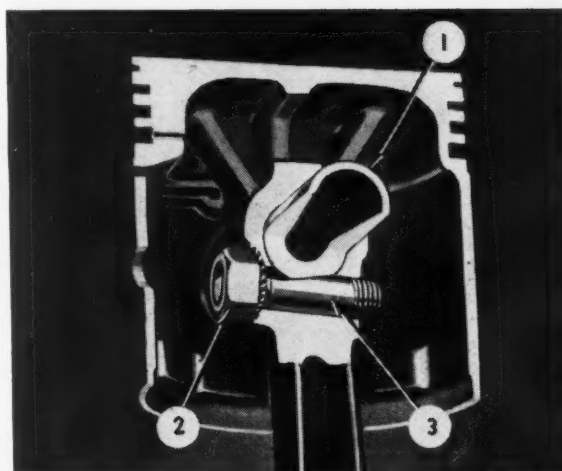
wise for a leaner mixture or out for a richer mixture.

**Starter.** Delco Model 1107089. Brush spring tension 24 to 28 oz. Lock test: 525 amps. 3.4 volts and 12 ft. lbs. of torque. No load test: 65 amps. 5.7 volts at 5000 rpms.

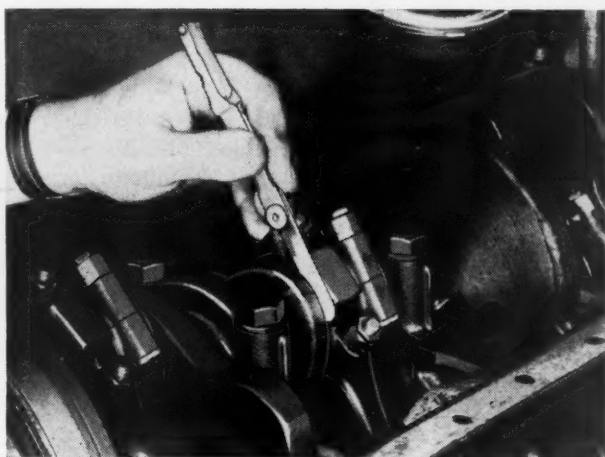
**Valves.** Seat Angle: 45 degrees. Stem diameter  $11/32$  inch. Lift  $23/64$  inch. Tappet clearance .014 to .016 in.

**Main bearings.** Steel Back Babbitt lined. Renewable from below. Crankshaft end thrust is taken on the front bearing.

**Normal oil pressure.** 40 lbs. at 25 to 30 mph.

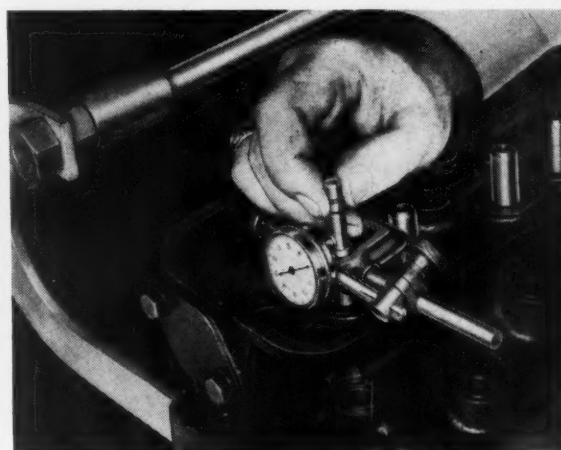
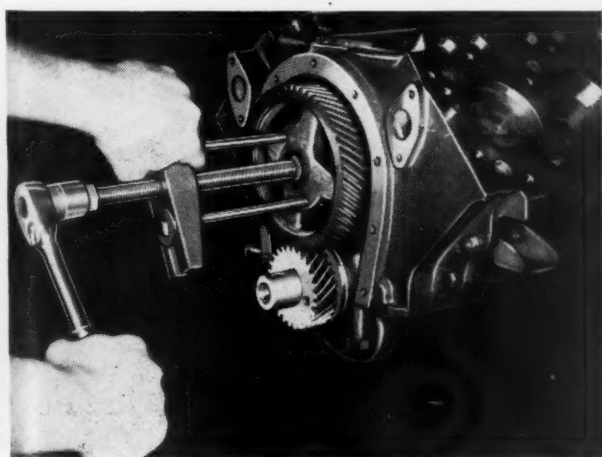


To remove the wrist pin (1) remove the nut (2), install on the opposite end of the clamp screw (3), and tighten the nut to loosen the clamp screw.



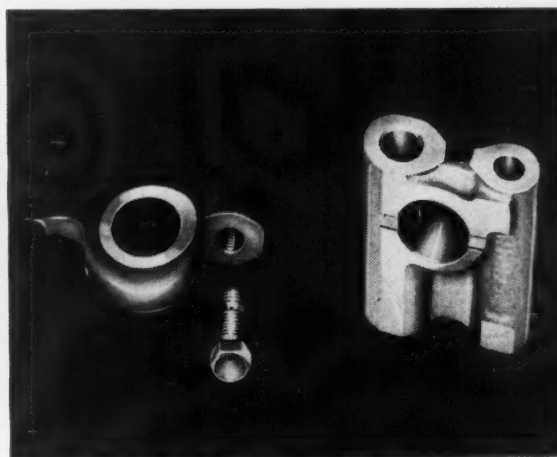
Checking the connecting rod end play. Correct amount of play is from .007 to .012 in.

Puller in position for removing the camshaft gear. Gear is keyed on the camshaft.



Checking the valve guide clearance with a dial gage. Total clearance should not exceed .0035 inch.

View of the rocker arm and the bracket. Note the self locking tappet screw.





# Pop Smokes

The comeback on a rough engine

**O**NE balmy afternoon Tommy Winters was putting up a large display banner which advised all motorists to become customers of Pop O'Neill's repair shop and "tune-up for spring." He rather admired the little frogs and birdies and flowers chorusing the message, and he thought it was being hung very skillfully, too. He whistled it as he mentally counted the shekels which his efforts would bring in and decided to approach Pop for two things. The first was an addition to the shop to take care of the extra business and the second was, of

# Out a Leak



Pop O'Neill

had the Professor stumbling over his tools and Larry grumbling over his problem

course, a raise. As he worked, his daydream grew.

Before he had even put his stepladder away a 1942 Pontiac had parked outside. When Tommy heard the rough idle his pulse beat a little faster. Customer No. 1 had followed the banner's advice. He really needed a tune-up.

"Good afternoon," Tommy greeted him as he approached the car. "I bet you're in for a spring tune-up!"

"Spring tune-up!" The mild-faced driver began to turn red. "Young man, I've paid for two spring tune-ups already, and listen to this engine. Every bit as bad as when I went in. Probably worse." He nodded his head. "Probably worse after you mechanics got done with it."

Tommy began to get his Irish up. He felt called upon to defend his fraternity.

"Everyone tells me I can get it fixed here." The man smiled suddenly. "Pop O'Neill has certainly acquired a wonderful reputation."

Somewhat mollified, Tommy's Irish began to go down again.

"Pop's earned his reputation," he said seriously and unwittingly quoted Larry Tait, "Whatever one man can build another man can repair," he said. "And Pop O'Neill is that man."

"I hope so," answered the customer, "I'd like to get home with this gardening equipment in time to do some work."

Just then Larry Tait came sauntering out wiping his hands on some cotton waste.

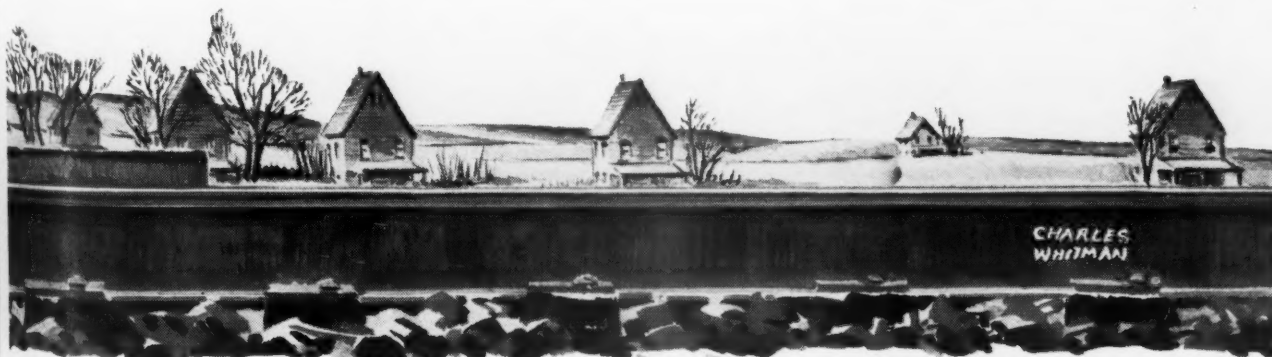
"Hello, Professor. How's the boy?" he greeted.

Professor Graham looked a bit startled by the incongruousness of the wording, but when he saw Larry his face broke into a smile of understanding.

"Hello, Tait," he replied, "how about a modicum of celerity in the rehabilitation of my semi-defunct vehicle?"

*(Continued on page 82)*

by Charles M. Kenyon, Managing Editor





# Electronic or 12-Volt Ignition Systems?

**H**IGHER compression ratios in automotive engines, which have come at an accelerated rate since World War II, have posed some knotty problems for automotive electrical engineers. It has become apparent that ignition systems will have to produce more electrical energy in order to maintain adequate reserve at all speeds for the higher-compression engines.

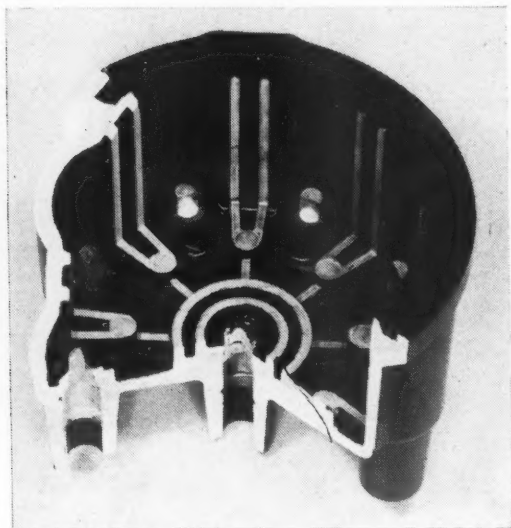
Two methods of accomplishing this aim have been the subjects of intensive research. These are the electronic ignition system, and the 12-volt ignition system. Of the two, the 12-volt system now is considered the most practical means of meeting the challenge.

The 12-volt system permits the use of higher and more uniform energy levels than does the conventional, 6-volt system throughout the complete engine speed range. This is illustrated in the accompanying comparison graph. In present passenger car installations the energy in the secondary coil, available to the spark plug, is a very minute quantity. Any increase in this tiny amount of energy is, of course, a step toward better performance in higher-compression engines. Providing a greater amount of voltage

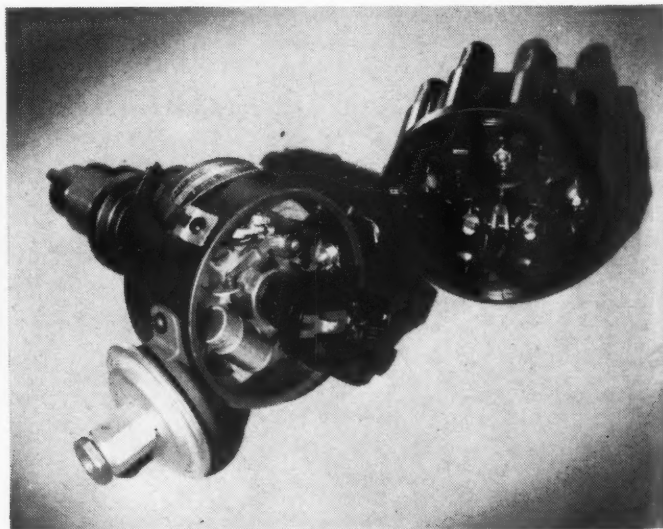
To attain better high compression performance, engineers are continually engaged

by H. B. Birt, Technical Editor, Delco-Remy Division, General Motors Corp.

Cutaway of re-designed distributor cap emphasizing vertical and horizontal moisture baffle ribs.



Interior view of re-designed distributor cap and body of distributor with rotor in place.

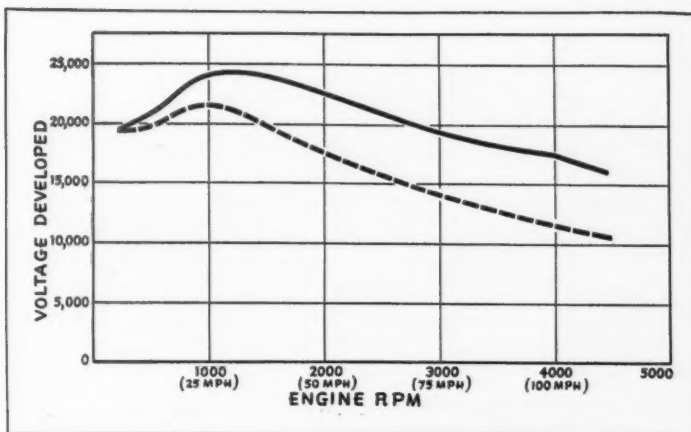


obviously lessens the possibility of the requirement exceeding the available voltage at any speed. The high output of the 12-volt system tolerates more spark plug-gap wear and hence adds to the life of spark plugs.

Another salient advantage is that a 12-volt system permits approximately 20 per cent more output than does the 6-volt system, using the same sized generator. Since the trend in the future appears certain to be toward the use of more and more electrical accessories in passenger cars, requiring more and more current, this increased output can be of tremendous value.

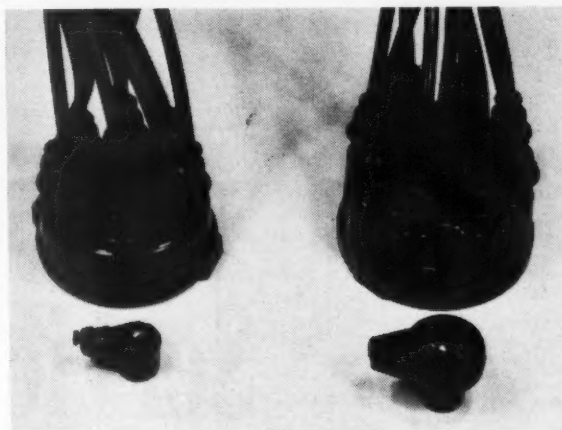
Any substantial increase in secondary voltage, as is required by the higher-compression engine, and which the 12-volt system is capable of providing, naturally magnifies the danger of loss through flashover, surface tracking and other

*(Continued on page 88)*



Comparison of voltages developed by 12-volt and 6-volt systems.

Conventional cap and rotor compared to re-designed cap and rotor.

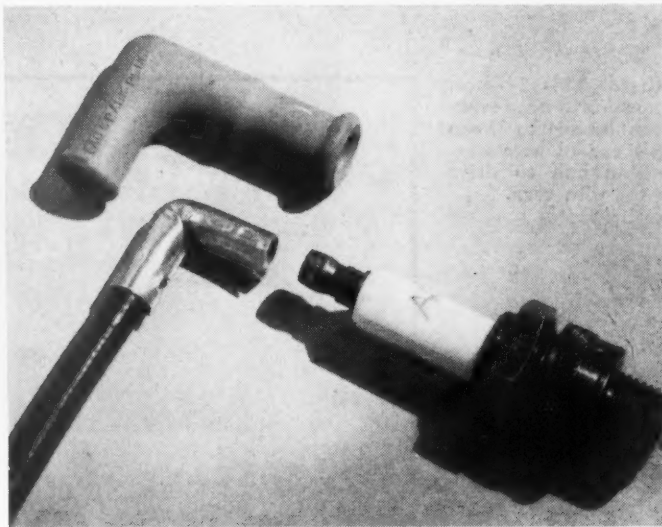


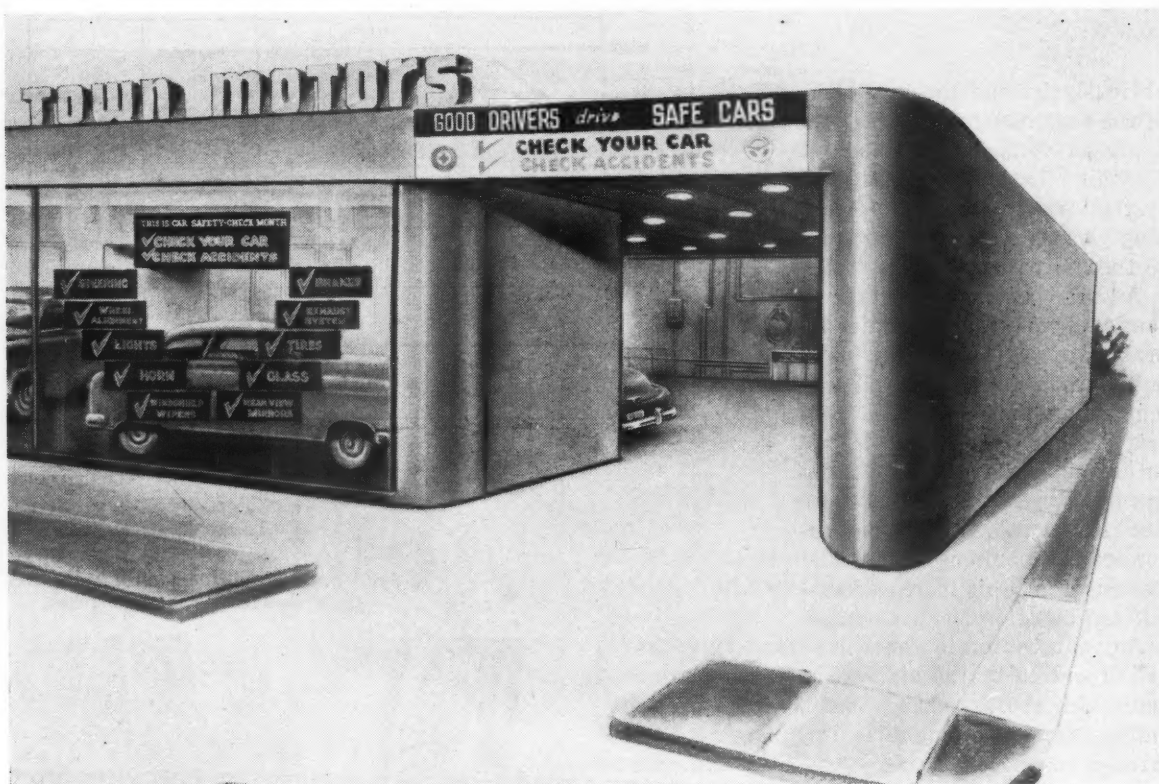
## in ignition research and experimentation

New breaker lever with preformed rubbing block surface. New rotor, on side, illustrating longer shank.



Silicone-rubber sparkplug boot, showing how it covers junction of high-tension lead and porcelain.





Above. These display posters and other material will be available to repair shops and dealers throughout the nation.

# Serviced for Safety—

Right. This 24-sheet poster will urge every car owner to keep his car in safe condition and to drive with care.





## MAY 1 - 31, 1951

Service Manager

Make of Car Handled \_\_\_\_\_  
 Dealer \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_

Please Mail Promptly June 1

No. _____		<b>NATIONAL CAR SAFETY CHECK MONTH SAFETY CHECK SHEET</b>		Date _____ 195__			
NAME _____  ADDRESS _____  PHONE _____ MAILE _____  YEAR _____ MAILE _____		SAFETY ITEMS CHECKED	CHECKED FOR	OK	ATTENTION REQUIRED FOR SAFE DRIVING	ESTIMATED COST	
<p><b>CHECK YOUR CAR CHECK ACCIDENTS</b></p> <p>In Cooperation With</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p><b>THE NATIONAL SAFETY COUNCIL</b> AND <b>THE INTER-INDUSTRY HIGHWAY SAFETY COMMITTEE</b></p> <p style="font-size: 2em; margin: 10px 0;">☆☆</p> <p><b>GOOD DRIVERS DRIVE SAFE CARS</b></p>		<b>BRAKES</b>	Service Brakes Parking Brake Master Cylinder	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Adjustment, Operation Adjustment, Operation Fluid Level		
		<b>FRONT LIGHTS</b>	Head Lights Parking Lights Direction Signal	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Operation, Aim Operation Operation		
		<b>REAR LIGHTS</b>	Tail Lights Stop Lights Back-Up Lights Direction Signal	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Operation		
		<b>STEERING</b>	Steering Gear  Steering Linkage Alignment	<input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>	Wheel Play to Adjust Standards Looseness, Wear Four End Condition Balancing to Insure Alignment	<input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>	
		<b>TIRES</b>	Left F., Right F., Left R., Right R., "Spare"	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Wear, Breaks Cuts, Blisters	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<b>EXHAUST SYSTEM</b>	Exhaust Pipe Muffler Tail Pipe	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Rusted, Loose Exhaust Gas Leaks	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<b>GLASS</b>	Windshield Rear Window Doors	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Clear Vision, Cracks	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<b>WINDSHIELD WIPERS</b>	Wiper Motors Wiper Blades	<input type="checkbox"/> <input type="checkbox"/>	Operation Condition	<input type="checkbox"/> <input type="checkbox"/>	
		<b>REAR VIEW MIRROR</b>		<input type="checkbox"/>	Clear Vision	<input type="checkbox"/>	
		<b>HORN</b>		<input type="checkbox"/>	Clear Signal	<input type="checkbox"/>	
DEALER _____  TOWN & STATE _____		Remarks and Estimated Total Cost of Repairs and Adjustments (Please not include)					

**Above. The safety check sheet provides space for recording remarks and estimates on necessary repairs needed for safe operation.**

**Left. Service managers are requested to fill in the necessary information on these postage-prepaid cards upon completion of the Campaign.**

**Inter - Industry Highway Safety Committee**  
**arms dealers and independents with new am-**  
**munition to "Check Cars—Check Accidents"**

by Frank P. Tighe, Editor

—May 1951

**T**WO people are responsible for most of the 15 million yearly traffic accidents in the United States . . . the guy at the wheel and the gent who neglects to keep his car in safe operating condition. Often, they're one and the same.

Care saves cars—neglect paves the way for 35,000 traffic fatalities, 1,225,000 injuries and more than \$3 billion in property losses. (1950 figures—highest since 1941!)

Next month—a broadside of publicity will tell all car owners of the great need to have their cars *serviced for safety*. "Check cars—Check accidents," is the theme for the nationwide Car Safety-Check Month.

The Inter-Industry Highway Safety Committee is whipping the campaign into shape. The program provides all the necessary promotional material to aid any dealer service manager or independent automotive repairman in taking part in this vital and essential work.

The need to conserve and maintain present vehicles in safe operating condition becomes increasingly important as plans for defense mobilization move ahead.

The program will receive widespread cooperation by sales and service executives of automobile companies and other manufacturers. This support will include newspaper, radio,

(Continued on page 120)



The first place winners in each of the 11 price divisions of the Economy run, with their drivers and entrants.

# Grand Canyon Economy Run

**Lincoln wins ton-mile sweepstakes trophy**

**Nash Rambler gets most miles per gallon**

**T**HE 1951 Mobilgas Economy Run, comprehensive performance and economy test of stock 1951 automobiles, awarded the sweepstakes trophy to a Lincoln for a ton mile mark of 66.48. The actual miles per gallon for the car was 25.44 for the 880 mile course from Los Angeles to Grand Canyon. The average miles per gallon for the 32 entrants, which ranged from Willys Jeepster to the Chrysler Crown Imperial, was 23.92. All cars finished within the required time of 20 hours and 55 minutes. Average miles

per hour for all entrants was 40.8. The course was designed to subject the cars to a two-day trip that would duplicate all the conditions the average motorist encounters on a full year of driving. It involved altitudes from 280 ft below sea level to 7005 ft above. All types of road and traffic conditions were encountered and the speeds were restricted to those of normal touring. Coasting and trick driving were banned.

According to the rules set forth by the AAA,  
(Continued on page 74)



Trophy being presented to C. S. Beesemeyer (left), of General Petroleum, to Bob Estes (center) and Les Viland.



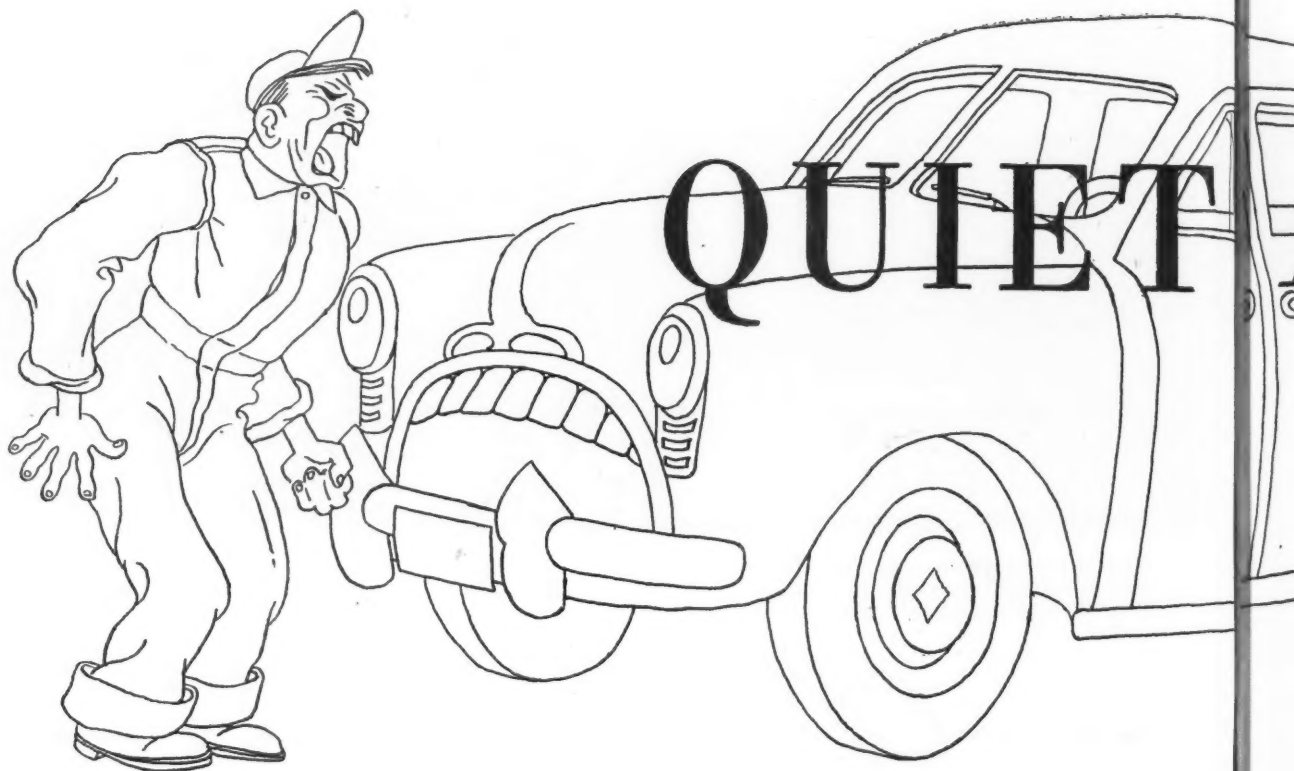
Lincoln, the Sweepstakes Champion of the 1951 Mobilgas Economy Run. This car attained a ton-mile record of 66.48.

## Official Results

Class	Make and Model	Place	MPG	TM	MPH
A	Chevrolet Styleline	5	22.041	45.956	40.47
	Ford Six	3	25.915	53.838	40.28
	Ford Eight	1	25.994	54.587	40.57
	Plymouth Cranbrook	4	22.990	47.934	40.62
	Studebaker Champion	2	28.621	54.321	40.47
B	Nash Statesman	2	26.122	52.637	40.33
	Studebaker Commander	1	28.001	58.173	40.46
C	De Soto Deluxe	5	21.622	51.135	40.31
	Mercury	1	25.945	59.868	40.31
	Stude. Land Cruiser	2	27.644	58.744	40.24
	Kaiser Deluxe	4	24.713	52.828	40.8
	Nash Ambassador	3	24.926	58.268	40.48
D	De Soto Custom	3	19.921	47.760	40.60
	Chrysler Windsor	2	20.886	52.268	40.56
	Packard "200"	1	22.023	53.020	40.59
	Hudson Commodore 6	4	19.590	46.723	40.58
E	Hudson Hornet 6	2	22.623	53.785	40.56

Class	Make and Model	Place	MPG	TM	MPH
	Lincoln	1	25.448	66.484	40.48
F	Packard "300"	2	20.941	52.196	41.41
	Cadillac Series "61"	1	21.719	55.492	40.48
G	Chrysler Imperial	1	21.178	59.457	40.76
	Cadillac Series "62"	2	21.531	56.412	40.32
	Lincoln Cosmopolitan	3	17.123	47.601	40.89
H	Cadillac "60" Spec.	1	21.979	58.795	40.39
I	Cadillac Series "75"	2	19.869	58.513	40.47
	Chrysler Crown Imp.	1	19.208	63.289	40.26
Special Lightwt. 4-Cyl. Class					
	Henry J	1	30.109	49.153	41.70
	Willys	2	26.769	46.110	40.74
Special Lightwt. 6-Cyl. Class					
	Henry J	3	28.860	48.340	40.68
	Willys	4	24.973	43.266	40.54
	Nash Rambler	1	31.053	53.489	41.13
	Plymouth Concord	2	24.145	48.954	40.69





**E**VERY shop owner or service manager has the problem of finding squeaks and rattles in customers' cars. Although most body noises can be found easily, a few time consuming jobs are bound to crop up to give mechanics grey hair.

Two things can be done to control noises. First, offer a body tightening service, in which all accessible chassis and body nuts and bolts are checked or tightened. This service could not, of course, guarantee that all noises will be eliminated, but it should help to silence the car. Second, undercoat the car. Undercoating does a good job in quieting the car which has lots of little squeaks and rattles. Also it helps to protect the car from the elements which induce rust and corrosion.

Fortunately, most rattles aren't too hard to find, since they usually turn out to be something simple, like a loose grille guard or a worn shock link. But now and then an elusive one

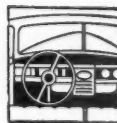
**The old saying, "Silence is Golden"**

**takes on a profitable slant when a**

**shop turns the rattles and squeaks in**

**customers' cars into service dollars**

comes along and then it helps to know the common causes of body and suspension noises.



**Dash Noises.** Probably the most annoying noises are the ones inside the car. Dash noises, particularly, stir up complaints, since people drive so much with their windows closed. For instance, several cases have been reported of a whistling which seemed to have come from under the



Other helpful information  
of this type is available  
in Chilton's Motor Age  
Body and Frame Manual

dash. The noise was finally traced to the fresh air intake at the front of the car. As air at about thirty miles per hour passes through the air intake, obstructions or hollow sections will cause a whistle which telegraphs into the car under the dash. This can be corrected by changing the contour of the obstruction with sponge rubber or similar material.

Many different makes of cars get squeaks in the dash panel itself, caused by motion between the dash sheet metal and the reinforcing panel

By Arthur H. Nellen, Jr., Service Editor

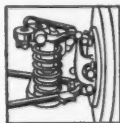
which is part of the body construction. Tightening the trim molding around the inside of the windshield won't usually correct this noise. The best remedy is to remove the molding and loosen the bolts which hold the dash panel to its mounting. Also loosen and re-tighten the dash panel brackets, as constant tension on them is a source of squeaks. Tighten these dash screws up snug; it isn't necessary to tighten them excessively to eliminate noise.

Other noises which show up underneath the dash are vibrations of speedometer cables, choke wires and so forth. Wrapping these with tape will usually eliminate the rattles.

On cars equipped with a rubber bushing between the steering post and the dash panel, a squeak may develop at this point. Motion is bound to take place between these two parts, so rubber lubricant should be used to prevent this squeak. It may be necessary to loosen the clamp which holds the steering post to the dash panel in order to completely lubricate this rubber.

Radios under the dash will often squeak in their mountings. Once again loosen the mounting bolts and re-tighten them all evenly. Some cars may need felt pads between the radio and the dash to eliminate these squeaks and rattles.

Probably the simplest cause of annoying dash rattles is something loose in the glove compartment. It may be something that the car owner has not investigated and should be checked by the mechanic when looking for a noise in that location.



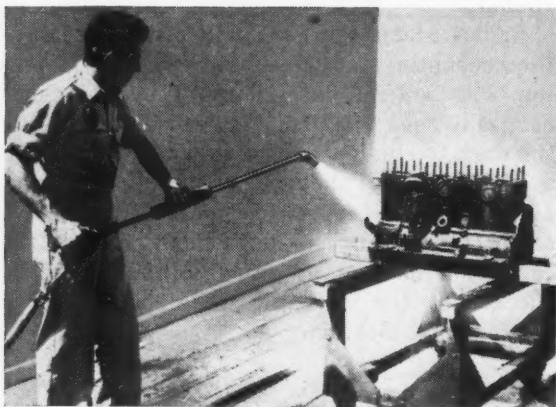
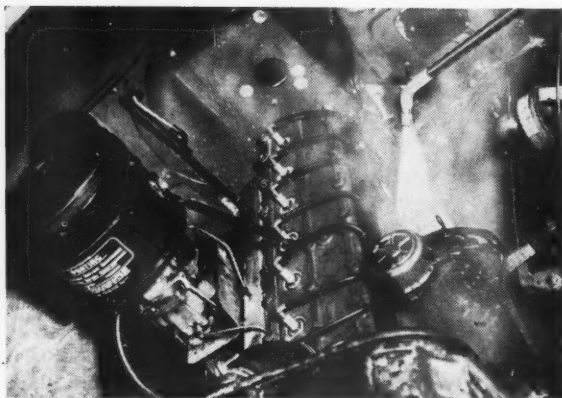
**Chassis Noises.** Rattles or thumps in the front end may be a danger sign. On cars which have the front shock absorber as an integral part of the suspension, a heavy rattle may show up due to loose shock absorber mounting bolts. As this condition continues, the excessive play increases and the shock may eventually break loose. When tightening up the shock absorber, replace the mounting bolts if they appear to be worn. A "clucking" noise or thump in the front end when the car stops suddenly, may be due to worn lower outer arm pins or bushings. In some cases the entire knuckle support will

(Continued on page 76)

by J. A. Cortright  
General Sales Mgr., Clayton Mfg. Co.

# A Guide to Wash

An unprofitable wash rack can be turned into a money making proposition with the



**T**HE wash rack in the modern car dealership or independent repair shop is often an unprofitable department. Usually the wash rack is incompetently manned, improperly equipped and neglected so far as advertising and sales are concerned. Many shops regard the wash rack as a necessary evil, resigned to the idea that there's no money in it.

However, by the addition of steam cleaning in the wash rack area, the unit of sale is increased, another profitable service is added and finally, the dollar volume is raised.

Let's not think of the wash rack in the commonly accepted sense. Think of that area as a cleaning and washing department. This area should contain a steam cleaner, located outside of the actual wash stall with the steam piped in. It should have a front end lift of some type, an exhaust fan to carry out vapor, good drainage facilities and sufficient room on all sides of the vehicle, at least four feet.

After you obtain the proper facilities and have a trained operator, the next step is to get business into the wash area. There are many sources of profit for your cleaning and washing department right in the shop. Regular service customers can be sold a complete steam cleaning periodically. Used cars and trucks can be made more salable if they are steam cleaned. Service work is easier after the parts have been cleaned, too. Before engine overhauls, rear end jobs, front end alinement and repairs, body and fender work and frame straightening, painting, lubrication and undercoating are all jobs which can be preceded by steam cleaning. Also, radiators can be reverse flushed with the steam cleaner.

Apply the above jobs to your own operation to see how steam cleaning could increase your shop volume. For instance, if you service 500 cars per month and could sell just ten of these customers on an engine and chassis cleaning at \$7.50 (estimating the time required at about one hour), the income would be \$75. Undercoat four



# Rack Profits

addition of the right equipment

cars, which are not new, and you have added another \$30 to the wash rack income. Go through the list of potentials as suggested above, and you can estimate the gross volume that might be taken in on the wash rack with steam cleaning. Cost of operating the machine depends upon the size, but the most it would cost is \$1.00 per hour for compounds, water, fuel and electricity. The operator would probably be paid no more than \$1.50 per hour.

The steam cleaner, therefore, can make your wash rack a profitable department. Wash jobs can now be offered even though there is not much profit in the actual sale itself, and the additional business which often accompanies washing will come into the shop.

Here are some of the other advantages:

Shop morale is boosted because of clean working conditions.

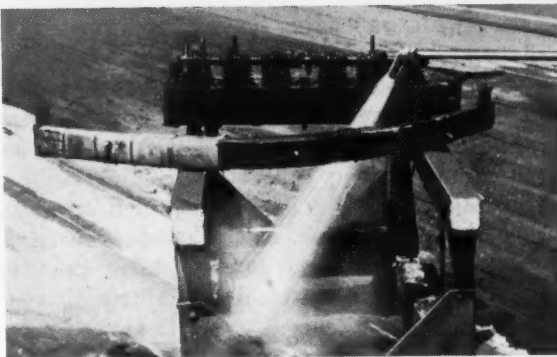
A steam cleaning machine can clean driveways, lifts, grease pits, floors, and so forth.

The hazardous use of gasoline and waste for cleaning purposes is eliminated.

In selling customers steam cleaning, an important sales point is the fact that many safety inspection stations are demanding that dirty, grease encrusted motors be cleaned as a safety factor. Many a damaging car or truck fire could have been prevented had the motor and chassis of the vehicle been free of the highly inflammatory grease.

As far as the chassis is concerned, lubrication is more effective when the front end and chassis parts have had a periodic removal of grease and abrasive grit from around bearing surfaces. A periodic cleaning of the chassis prevents sealed-in rust pockets from forming on frames, fenders and under body parts.

This information hammered home to customers by personal contact from all service personnel, by direct mail pieces, by newspaper advertising will build a steam cleaning and washing volume in the average shop to well over \$1,000 a month.





# Chilton's MOTOR AGE Flat Rate and Service Manual

## S e r v i c e S u g g e s t i o n s

The information presented here has been compiled from the Factory Service Bulletins, as an additional service of Chilton's Motor Age Flat Rate and Service Manual Department.

Selected by William H. Lutton  
Assistant Editor  
Chilton's Motor Age Flat Rate and  
Service Manual

### Removing Door Glass

#### Rattle in Cadillac Cars

When 1950 Cadillac cars equipped with Hydraulic window lifts develop a rattle when the door glass is in the lowered position, you should check to see if the door window hydraulic lift cam assembly is contacting the hydraulic lift frame assembly support. If it is contacting, this condition can be remedied according to the procedure as follows:

1. Lower glass and remove door inside handles, molding, arm rest, and trim pad.
2. Remove the large loading hole cover plate and check the clearance between the door window hydraulic lift cam assembly and the hydraulic lift frame assembly support. If cam and support contact, rework as follows:
3. Using a piece of chalk, mark the location of the point of contact between the cam assembly and the support.
4. Loosen the attaching nuts holding the door glass assembly to the cam assembly.
5. Raise the door glass assembly

bly to an "up" position by hand. Holding the glass in this position, disengage and remove the cam assembly.

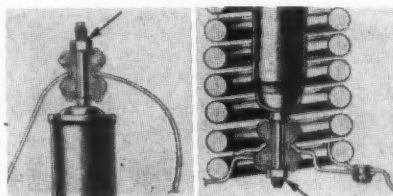
6. Cut a notch in the cam assembly to eliminate any contact with the support. The notch should be approximately  $1\frac{1}{2}$  in. long and  $\frac{1}{2}$  in. deep.

7. Reinstall cam assembly, door glass assembly, loading hole cover plate, and door trim.

### Stake Shock Absorber

#### Retaining Nuts

On Chevrolet cars, in order to eliminate any possibility of the



shock absorber retaining nuts becoming loose during operation, a production change has been made to include a staking operation to both top and bottom retaining nuts on the passenger car front shock absorber assembly.

You can accomplish the same staking with a small cold chisel which has the point ground with approximately a  $1/16$  in. radius. Stake the shock absorber stud threads above the top nut and below the lower nut, after the nuts have been properly tightened, as shown in the illustration. Staking the nuts in this manner will prevent them from even backing off.

### Cylinder Head Cover

#### Ventilation Filter

If while performing any operation on the 1950 Nash Ambassador Series, which necessitates the removal of the cylinder head cover, you notice a moisture condition of the rocker arm assembly, this is evidence that the air filtering element needs cleaning.

This filtering material is placed at the cover vent and must be removed, but only  $1/6$  of material reinstalled. Before reinstallation of the filtering material, be sure it is thoroughly cleaned. In replacing, the material must be distributed evenly in the vent area which will insure proper filtering of all dust and dirt.

This change in amount of filtering material is being incorporated into production at the present time.

### Red Lead Test

#### Ring Gears and Pinions

It is important that a red lead test be made on all Pontiac ring gears and pinions after a differential assembly and adjustment, especially when the assembly has gone 10,000 miles or more. This test will indicate correct or incorrect contact between rear axle pinion and ring gear. In cases where the rear pinion bearing is slightly worn, incorrect tooth contact and noisy operation will result. This condition can be rectified by the addition of sufficient shims (over

(Continued on page 126)

# ANOTHER BIG WIN FOR STUDEBAKER!

*And here's how Studebaker dealers  
are telling all America about it!*

*Among 26 cars entered in standard classifications  
in the 1951 Mobilgas Economy Run...*

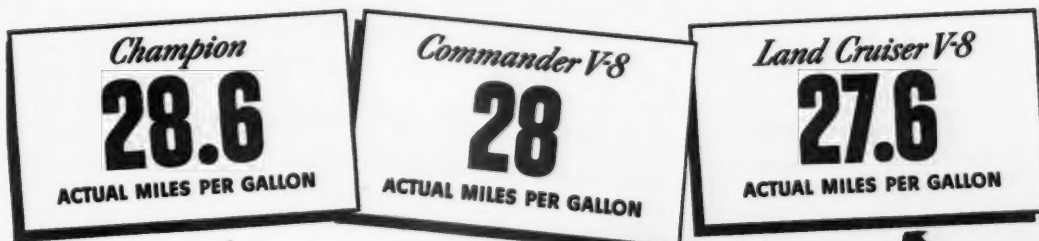
## three Studebakers

CHAMPION...COMMANDER V-8...LAND CRUISER V-8

# finished 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> in actual miles per gallon

Commander V-8 won the highest award  
in price class B for ton miles per gallon

LOOK AT THESE SENSATIONAL  
STUDEBAKER GAS MILEAGES





# Shop Kinks



**\$25**

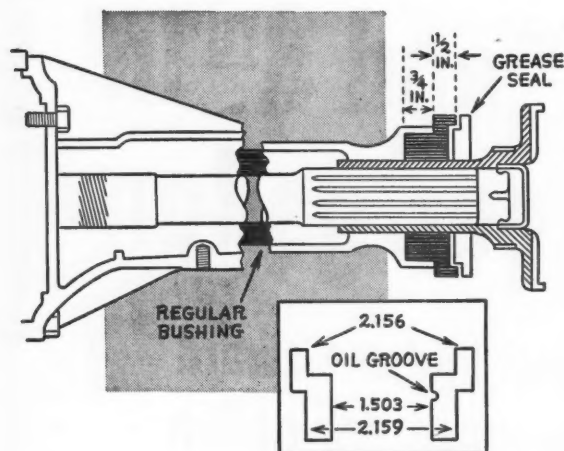
**FOR THE BEST KINK  
PUBLISHED  
EACH MONTH**

**\$5**

**FOR ALL KINKS  
PUBLISHED  
EACH MONTH**

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring five, possibly 25 dollars.

## Best Kink of the Month



### Quick Repair for Hydra-Matics

On 1946 to 1950 Hotchkiss drive cars equipped with Hydra-Matic transmissions the transmission tail shaft may become loose. This causes excessive drive shaft play and high speed vibration and rough shifting into third speed. Regular parts to repair this cost about \$50.00. I found a way to remove the transmission rear oil seal and make a bushing as shown in the sketch. This makes the transmission like new again. It can be done by removing the drive shaft and the oil seal only. *Glen Horn Garage, 1101 North 24th Street, Phoenix, Ariz.*

### Easy Method of Installing Oil Pan Gaskets

Here is a simple set of tools that can be made for holding pan gaskets to the block when installing from below. Use four studs the proper size, about 1 in. long. Slit the ends so they can be removed with a screw driver. About 1/2 in. from the end of the studs drill a 1/8 in. hole. Install these in the block and screw up until the holes are flush with the gaskets. Then turn the holes at right angles with the tip of the block and insert a

small nail to hold the gasket. Be sure to have the nails sticking out far enough so they can be removed after the pan is started and held with a couple of bolts. Remove the nails from the block between the pan and the block before the pan is drawn up against the gasket but have the studs to help align the pan and gasket. Until all the bolts are in order hold everything. Don't get the studs too long or they will interfere with putting some pans up. *Robert Morham, Morham Garage, Chester, Nebraska, Box 4.*

### Temporary Repair Measure On Worn Universal Joints

On Chrysler built cars and some others also that use Detroit universal joints, a quick repair can be made where parts of the housing is worn so replacement is needed but parts are not readily available. Add two extra dust seals on the end of the housing so as to move the housing ball to a new location to compensate for wear. This repair usually works well. *E. B. Moore Foot-hill Garage, Claremont, Calif.*

(Continued on page 60)

# Perfect Circle Nurlizing



**PROVED  
in over a  
MILLION  
INSTALLATIONS—**

*with success stories  
like these:*

"In the first two months we had it, we took in more money on NURLIZING than we did in the last eighteen months with another piston expanding machine..."  
L. T. McKeone, Sittler's Auto Parts  
Washington, Iowa

"I feel that NURLIZING offers the motoring public something it has never enjoyed before... quieter running engine, longer piston life, and less cylinder wear due to better lubrication..."  
Joseph A. Coniff, Famous Race Car Owner  
Colorado Springs, Colo.

"... For the past three months, we have rung the bell with 500 pistons a month NURLIZED. Piston ring business doubled, and unit sale is larger on related parts than previous to NURLIZING."  
John Spadaro, Malden Motor Parts Co.  
Malden, Mass.

"... Through the use of NURLIZING, our piston ring sales and sales on other parts have increased three-fold!... We have not had one complaint on NURLIZING, nor found one account who does not like this method of sizing pistons."  
Donald Y. Nicholas, D. G. Nicholas Co.  
Scranton, Pa.

**Your Perfect Circle Jobber has Nurlizing Service...**

## Perfect Circle NURLIZING

**New life for old pistons—longer life for new pistons**

These are only a few of the hundreds of enthusiastic reports Perfect Circle has received—reports *proving* that NURLIZING, the exclusive process of sizing pistons quickly, accurately and permanently, gives better engine overhauls while increasing dealer profits.

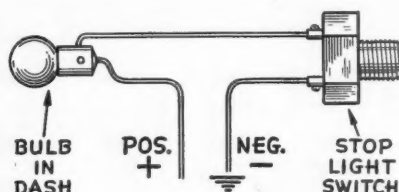
**Get the whole story on NURLIZING today!** Call your Perfect Circle Distributor, or drop a line to Perfect Circle Corporation, Hagers-town, Indiana.

### **ONLY NURLIZING GIVES YOU THESE SEVEN ADVANTAGES:**

1. Increases piston diameter to exact predetermined size quickly, accurately, permanently.
2. Permits closer fit without danger of scuffing or scoring.
3. Eliminates piston slap, stabilizes pistons and increases ring life.
4. Insures adequate lubrication with interrupted surface.
5. Is equally effective on new or used—cast iron or aluminum pistons.
6. Enables dealers and Doctors of Motors to do a better overhaul at a lower price.
7. Nurlizing stimulates more overhauls—more related parts sales—more profits for dealers.

## Brake Light Switch Makes Oil Pressure Signal Light

This is an idea for making your own oil (or other liquid pressure) gage for installation where one is not provided. It can be hooked into the line with a "T" fitting and



whatever other adaptors are necessary on the job. The only parts needed are a hydraulic stop light switch, wire, light socket and bulb. *G. Pogle, 1123 N. 4th St., Milwaukee, Wis.*

## Time Saver for Removing and Installing Door Glass

I have found a simple method of removing the door glass from Mercury cars. Loosen the side panel at the bottom and the sides, and hold it out away from the door with a screw driver. Then run the glass all the way down, reach in and remove the two hair pin clips that connect the regulator arms to the channel. With the regulator free of the channel, run it all the way up, thus giving more room to maneuver the glass all the way down. The glass must be held with the free hand during this operation. With the regulator arms out all the way, drop the glass down free of the two vertical channels. The glass can then be maneuvered out through the opening in the door. This operation can be performed on all the doors of coupes, two-doors and the front doors of sedans. The installation of glass can be done in the reverse manner. *James Salmon, 458 McCully Street, McKeesport, Pa.*

## Clothespins Work Fine When Replacing Mushroom Valves

In order to replace broken or chipped mushroom valve lifters, I

have got a dozen clothes pins. The type with the hole in the pincher and a dozen  $\frac{1}{8}$  in. cotter keys. Spread the cotter keys raise valves. Then slip the cotter keys under the valves and also slip the pins on the lifters. The method of removing the camshaft saves pulling the engine. I have done this on a '40 De Soto and it should work on any type of mushroom lifter. *Marvin Mander, Mander's Garage, 2250 Elm St., Dubuque, Iowa.*

## Installing Ford V-8 or Mercury Valve Guide Locks

To install valve guide locks on a Ford, Lincoln V-12 and Mercury, procure a Studebaker Commander valve spring seat lock. Grind out the inside of the wide end to fit the diameter of the valve stem. Then solder a six inch length of soft flexible wire to the center outside of the valve seat lock. To use this tool, assemble the valve, spring, guides and locks. Compress the valve spring with the guides, and insert the tool between the guides and the shoulder on the valve stem. This holds the spring compressed, permitting the guide lock to be slipped over the guides. To remove the tool simply turn the engine over until the valve is raised and withdraw the tool between the valve and the valve seat. *Henry Mechanick, Mechanick's Garage & Service Station, Schenectady, New York.*

## Tape Makes "Wall" to Keep Grindings Out of Cylinders

When grinding valves on a L head motor, if there are no studs in the block, it is easy to cover the cylinders up. But on one with remaining studs, run two strips of 2 inch masking tape lengthwise of the engine, along the bolts nearest the valves. This makes a 3 inch wall to catch the grinding cuttings. *Frank Rawbett, Lamor, California.*

## Removal of Outer Bearing In Rear Hub of Trucks

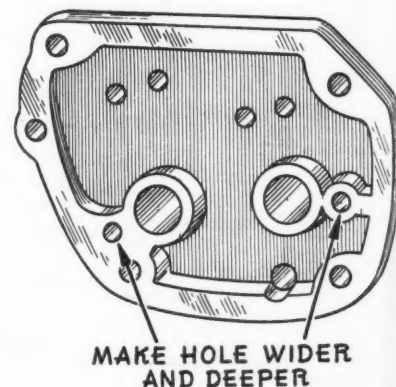
To remove the outer bearing in the rear hub of trucks with splined axles, I took a dicarded axle (or the good one may be used with care). After removing the snap lock ring, I laid the hub with the outer end up and inserted the splined hub end of the axle and drove out the spacer and bearing with great ease. *Ramon Tarosch, Route 1, Glenfield, New York.*

## Replacing Dimmer Switches Using a Piece of Wire

In replacing dimmer switches on most trucks and some cars, it is usually a problem of reaching and trying to get the new switch in the hole in the floor. I take a 2 or 3 ft. length of small, soft wire and fasten a  $\frac{5}{8}$  inch washer on one end and pass the other end through the dimmer switch hole in the floor. Wrap the wire around the switch, which can now be pulled into place. The washer on the end of the wire is to keep from pulling the wire through the floor. *Gus Green, Boron, California.*

## Sure Cure for Gear-Jumping Chevrolets

On 1949-1950 Chevrolet cars which do not go into high gear and sometimes jump out, I have found a cure. After checking the fly-



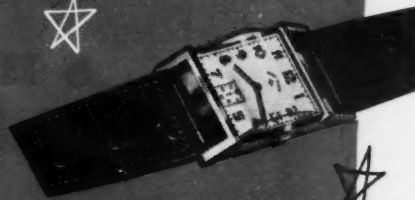
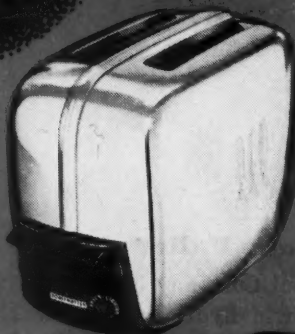
wheel mount, the transmission alignment and the gears, and finding them to be O.K., I drilled the high detent hole further back and a little deeper. This seemed to do the trick. *John Faulstich, Box 149, Thermopolis, Wyoming.*



# How To WIN GIFTS LIKE THESE

WITH

**fendix®**



## "LOVE THAT FENDIX" say Dealers and Service Managers...

Dealers everywhere are switching to FENDIX. Its wonderful merchandising award plan keeps service men and salesmen plugging for undercoating sales... bringing in extra profits of \$15 to \$20 per car. Dealers prefer FENDIX too, because each drum contains more solids... more cars are undercoated per drum. And dealers find that FENDIX reduces free labor time on new car squeaks and rattles, as well as giving them cars with a higher re-sale value when customers come around to trade.

Service managers "love" FENDIX because there are over 5,280 gifts to be earned for using FENDIX. Home furnishings, sports equipment, television sets... almost anything you name can be earned by using FENDIX. What's more, your men like FENDIX because it sprays freely and easily... doesn't foul up equipment... goes on in a continuous, uniform coating. FENDIX men train service men how to use FENDIX best. They stay on the job until service men do a job quickly, efficiently and easily.

### P. S. to dealers:

Get the facts and you'll switch to FENDIX, too. Contact your nearest jobber or write direct. Why not do it now?



### P. S. to service managers:

Get the facts on FENDIX and start earning those wonderful gifts. Contact your nearest FENDIX jobber or write direct. Why not do it now?

### NOX-RUST CHEMICAL CORPORATION

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EASTERN DIVISION, 201 DAVISON CHEMICAL BUILDING, BALTIMORE 1, MARYLAND  
WESTERN DIVISION, 725 SECOND STREET, SAN FRANCISCO 7, CALIFORNIA

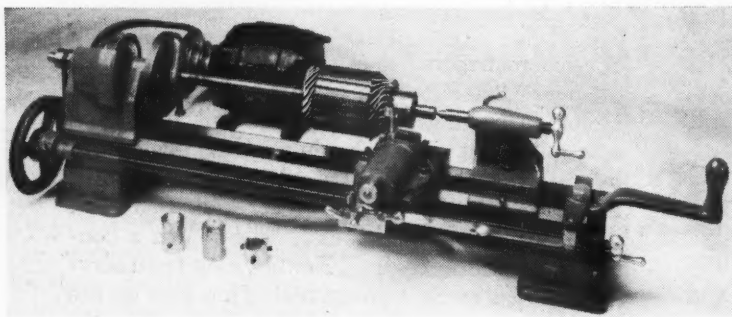
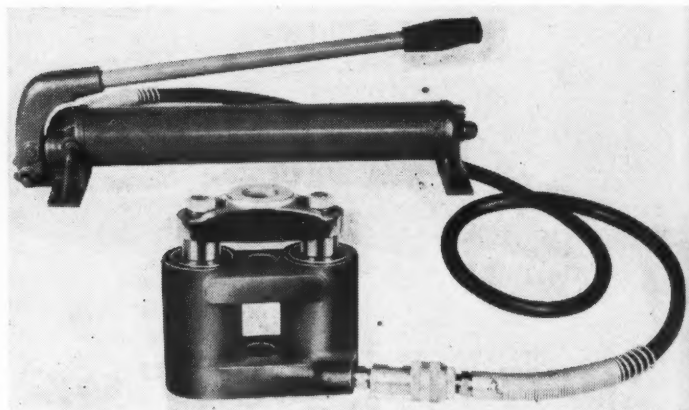


# NEW Products

## SHOW WINDOW

### ► 199. Hydraulic Puller

The Owatonna Tool Company is manufacturing a new Power-Twin hydraulic puller. This tool weighs less than ten pounds and develops fifteen tons of power, the manufacturer states, and has a center hole which is designed to make it adaptable to all OTC pulling systems now in use. The Power-Twin is only 5½ inches high and the ram travels 2 inches. The remote control pump develops 10,000 p. s. i. and the non-leak couples are tested for 24,000 pounds. Six feet of high pressure hose is furnished with the unit.

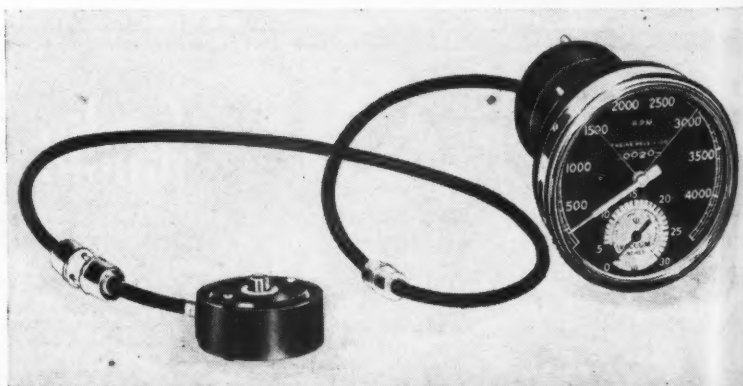


### ◀ 201. Armature Lathe

Hamilton Products, Inc. is manufacturing a new armature lathe designed to handle most automotive armatures and starters. It is equipped to turn centerless armatures. The bedways are machined with double V to 60 degrees, and the compound swivels 300 degrees on a center pilot and is locked with two T-slot bolts. The lathe may be operated with a ¼ horse power motor.

### ► 200. Tachometer

The Stewart-Warner Corporation is marketing a new tachometer. The drive design consists of two units, a sending switch which is attached to the distributor and the tachometer head which contains the receiving mechanism. Current is supplied by the vehicle's electrical system. The tachometer is available in three models, one for six full volt systems, another for six or twelve volt systems with a revolution counter built in and a third with vacuum gage as well as the revolution counter, for six volt systems.



**For Further Information  
Use Postcard Facing Next Page**

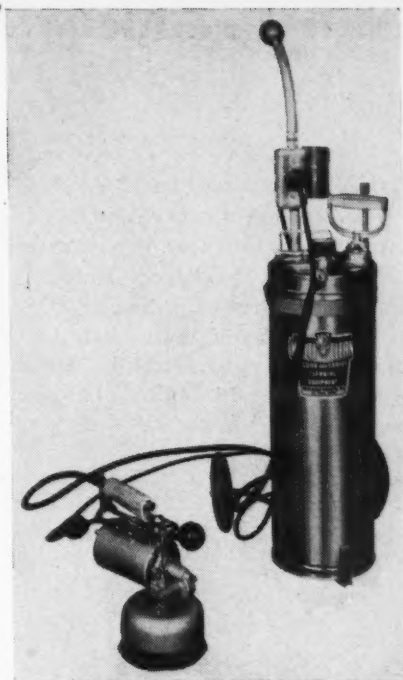


#### ▲ 202. Hacksaw

American Mercantile Company, Inc., is manufacturing the Pad-hacksaw, a hacksaw that is constructed without the usual frame. It is claimed that cuts of unlimited length can be made with this saw. The blade is held at one end in a pistol grip handle and guided along its upper edge by a groove in a rigid rod. The blade then passes through a slot in a thrust plate on the end of the guide rod. The guide rod is spring loaded and slides through the handle, keeping the cutting point of the blade rigid and non-vibrating. The manufacturer states that a standard hacksaw blade can be used with this tool.

#### ► 203. One-End Lift

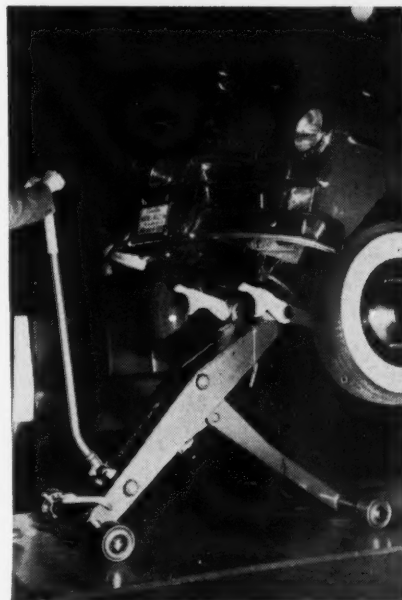
The Walker Manufacturing Co. of Wisconsin announces portable, self-powered, hydraulic one-end lift, Model No. 76, designed to raise either end of any passenger car or light truck to a maximum height of 46½ inches. The Walker "Hold-A-Car" features a self-contained hydraulic power unit of extreme lifting range. Two adjustments of the "Hold-A-Car" universal lifting arms permit the lift to handle 95% of all solid axle or knee action lifting problems, the manufacturer states, and two additional minor adjustments enable the "Hold-A-Car" to cope with the remaining 5 per cent.



#### ▲ 204. Cleaning Machine

Multi-Clean Products, Inc., announce a light weight upholstery cleaning machine for shampooing automobile interiors. A control button on the scrubber head provides control of solution through a channel feed scrubbing brush. The entire unit includes a truck wheel cart, stainless steel solution pressure tank and scrubber head. In conjunction with the upholstery cleaning machine, the firm announces its new portable wet-dry vacuum cleaner as a companion tool. It is used before scrubbing and for final drying.

*(Continued on page 64)*





# New Products Show Window

Continued from Page 63

## 205. Demonstrator

The Sealtight Corporation has designed a new counter demonstrator to show how Sealtight insulators waterproof the ignition system. It consists of a metal container divided into two sections, one of which is a water tank. The other contains a coil and battery con-



nected to a spark plug, which has been weatherproofed by a Sealtight insulator. By pressing the button on top of the insulator, the customer can see how the Sealtight protected spark plug will fire when completely submerged in water. A colorful display card fits the back of the container.

## 206. Rotary Lock Shim

Champ Items announces the No. 479 Rotary Door Lock Lug Shim for Chrysler products. This shim is designed to hold the door tight, eliminating rattle by compensating for latch wear. It is made of spring bronze of the proper thickness for take-up action.

## 207. Shock Absorber

Monroe Auto Equipment Company announces the new Monromatic Shock Absorber, designed for automatic adjustment for all sorts of road conditions. The fluid passages in the piston have been

re-designed to produce restriction to oil flow at the higher piston velocities. The degree of restriction may be increased or decreased to obtain optimum ride performance, the manufacturer states. The shock absorber control is said to be more sensitive to piston velocities, the rate of control increasing with increased piston speed. Since this type of control becomes effective above the speeds normally required for valve blow-off, the conventional base valve may be adjusted to lighter blow-off pressures for low piston velocities and still provide higher resistance at higher velocities. The new unit is now available for Chrysler, DeSoto and Plymouth 1951 models only.

## 208. Radiator Sealer

Lusco, Incorporated has developed a radiator seal designed to repair leaks in radiators and the



cracks in engine blocks. It cleans the system, the manufacturer claims, while it seals the leaks.

## 209. Brake Parts

The Thermoid Company has added to their line of hydraulic brake cylinders and parts, a new self sealing brake piston of the "Christie type" for all models of the 1946-51 Chrysler products. The anodized aluminum pistons are of special two piece design, and the cups have double lip seals and new type coil springs are used. All the parts for one wheel, including boots, pistons, cups and springs, are packaged as a repair kit in sealed boxes.

## 210. Liquid Dispenser

The Hydro-Flo Corporation is marketing a new light-weight metal container for use in dispensing powder or liquid deter-



gent when washing cars with an ordinary garden hose. A shut-off valve is available with this container which enables the flow of water through the hose to be retarded gradually. When the control button is depressed the detergent flows out with the water. When the button is released, the water continues to rinse, without detergent.

## 211. Rear View Mirror

The J. W. Speaker Corporation is featuring a polarized rear view mirror which is said to reduce over 80 per cent of the blinding glare reflected from the rear, while ordinary mirrors eliminate only 30 per cent to 40 per cent of the glare. It is said to reflect ordinary road conditions normally and clearly. The Speaker Corporation is also manufacturing a complete new line of truck mirrors.

## 212. Hog Ring Pliers

Novelty Tool Company has announced two new pliers for slip cover installation. The offset jaw, malleable iron pliers, with spring opening, reaches into hard-to-get places. Jaws are offset 45 degrees. The forged steel plier has a friction hold designed to grip and hold the hog ring, thus freeing the hands while shaping the cover to the seat.

(Continued on page 66)

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## HERE'S HOW TO GET

# Free Information

Here is a recap of the New Products described in this issue, along with their code numbers.

On each of the postage-paid postcards below you can request further data on items described in this New Products section. Fill out one of the sections completely for each item in which you are interested.

199. Hydraulic Puller
200. Tachometer
201. Armature
202. Hacksaw
203. One End Lift
204. Cleaning Machine
205. Demonstrator
206. Rotary Lock Shim
207. Shock Absorber
208. Radiator Seal
209. Brake Parts
210. Liquid Dispenser
211. Rear View Mirror
212. Hog Ring Pliers
213. Delivery Bike
214. Battery Switch
215. Front End Shim
216. Air Compressors
217. Free Booklet
218. Motor Oil
219. Wheel Weights
220. Auto Polish
221. Paint Stripper
222. Offset Ratchet
223. Flywheel Turner
224. Tappet Folder
225. Thread Restorer
226. Bearing Packages
227. O.D. Control
228. Oil Seals
229. Hose Clamps
230. Fuel Checker
231. Grille Guards
232. Test Set

USE THESE POST CARDS

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# New Products Show Window

Continued from Page 64

## 213. Delivery Bike

Simplex Manufacturing Corp. is featuring the Simplex Three Wheeler, a delivery unit equipped with towing attachment for calling for and delivery of automobiles. The tow attachment is said to be simple and no tools are needed to attach or detach to the rear bumper of the automobiles. The

three-wheeler is designed for carrying packages, automobile accessories and parts, etc. The box has a 200 lb. load capacity and the vehicle will attain a speed of 35 mph.

## 214. Battery Switch

Fire Control Switch is marketed a device for giving the driver

complete control of the electrical system in time of danger, whether the car is in operation, parked or stored. This Fire Control Switch disconnects the battery from the electrical system to prevent many of the dangers of fire which may come from shorted wires. The switch is controlled by a dash button which operates the main switch in the engine compartment.

## 215. Front End Shim

The Jibo Tool Company announces a new axle shim for front end work. The shim is designed so that there is a  $\frac{1}{4}$  inch grooved shoulder on both sides. This shoulder may be tapped off leaving a two inch shim. This method allows one shim to serve any requirement that is  $5\frac{1}{4}$  inches long and either 2 inches or  $2\frac{1}{2}$  inches wide in all degrees from  $\frac{1}{2}$  to 4.

## 216. Air Compressors

The Lynch Corporation's Par Compressor Division is featuring the Par Model 201 and S201, two horsepower single stage, low pressure, four cylinder compressors featuring fin type aftercooler, single or polyphase motor, and 60 gallon tank. These compressors have automatic unloader controller, pressure switch, check and safety valve. Model 201 delivers a larger volume of air where 150 pounds maximum pressure is required and Model S201 at 100 pounds maximum pressure.

## 217. Free Booklet

Mall Tool Company is publishing a new 36 page booklet called "More Holes In A Hurry" giving the reader a complete working knowledge of portable electric tools, their care and how and where to use them. Several sections are devoted to a step by step explanation of the technical drilling operations, such as drilling pilot holes, drilling concentric in a scribed circle and the proper drilling of various materials. A number of handy tables and charts give instant reference to the various drill sizes and speed required to get the job done.

(Continued on page 102)

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# READERS CLEARING HOUSE

## Trouble Shooting Problems

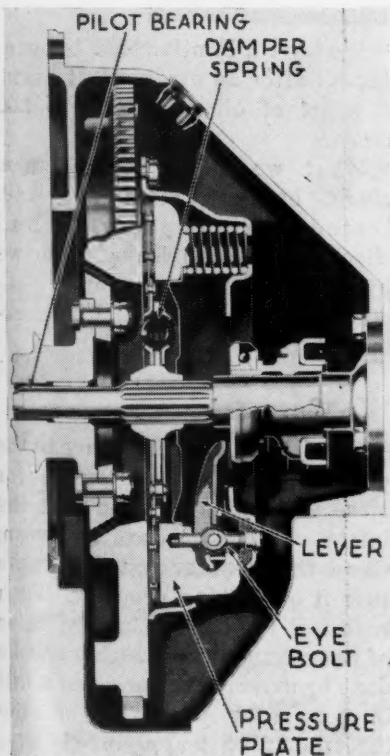
by Jack Montgomery, Technical Editor

- Plymouth has vibration in clutch
- Studebaker dies on acceleration
- Oldsmobile misses with wipers on
- Cadillac has oil leak at distributor
- G. M. C. engine has excessive sludge
- Ford truck tappets are noisy
- Pontiac burns oil after overhaul
- Nash clutch adjustment problem
- Chevrolet truck has a shimmy



### The Problem:

A 1946 Plymouth in which we installed a new clutch has developed a vibration.



**What we did:** We installed a new motor mounting. Also put in a new fan blade and new vibration damper. We had all the wheels balanced and the drive shaft

checked for out of roundness. Submitted by: Mr. H. F. Standridge, Box 608, Cumberland, Ky.

### We Suggest . . .

Try running the engine at various speeds when the car is standing still. This will determine if the vibration is in the engine. If the vibration is present when making the test, the trouble is probably due to the new clutch being out of balance. Therefore, remove the clutch and run the engine without it to see if the vibration disappears. If the engine runs OK then exchange the clutch for another unit. However, if the vibration appears only when the car is being driven then look for a broken center bolt or a misaligned rear axle.

### The Problem:

We have a 1950 Studebaker truck with 6000 miles on it. When driving in fourth gear from 5 to 30 miles per hour or when stepping on the accelerator, it sputters and does not pick up speed until you leave up and push the accelerator a second time or pull the choke out.

**What we did:** We installed a new carburetor. Then we checked the compression. That was OK. Also, we adjusted the valve tappets and replaced the manifold gasket and the head gasket. We installed a new set of spark plugs and a new ignition coil, checked the points and the condenser and set the cam angle and the vacuum and centrifugal advance. Submitted by: Al Lautenschlaeger, c/o Christel & Nimmer Garage, New Holstein Wis.

### We Suggest . . .

Since no improvement was noticed by these changes, I am inclined to believe the trouble is some simple item such as a leak in the vacuum advance line or possibly a restricted intake manifold. There is also the possibility that this engine is running too cool due to the thermostat not operating properly. This would cause a lean mixture.

### The Problem:

On a 1949 Oldsmobile 76 (6 cyl) with 25,000 miles on it, the engine runs smoothly until the windshield wipers are turned on. Then it misses. The vacuum pump has a  
(Continued on page 68)

## Clearing House . . . . Continued from page 67

15 inch vacuum both at the pump and at the wiper motor.

**What we did:** Installed a new fuel pump and vacuum pump. Put in a new windshield wiper motor, but no improvement with either. Checked the engine manifold vacuum and compression. Both OK. The windshield wiper switch checked also. **Submitted by:** Hughes Super Service, Yorkville, Ill.

### We Suggest . . .

By-pass the vacuum pump, attaching the wiper hose directly with the manifold. Try the windshield wipers. If the engine runs smoothly then the fuel and vacuum pump is defective. If the engine still misses then try adding a restricted fitting to the manifold to cut down on the vacuum.

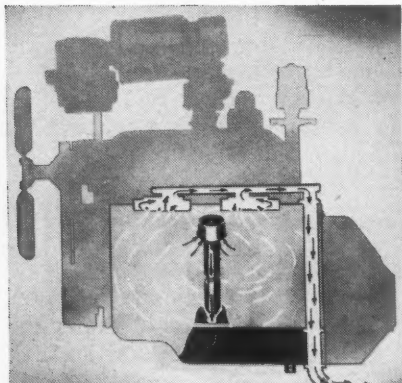
#### The Problem:

We have a 1942 Cadillac on which an oil leak developed around the base of the distributor.

**What we did:** We removed the distributor and cleaned the housing. Installed some packing around it, but it still continues to leak. What could be the cause of a condition like this?—**Submitted by:** R. H. Erny, 1724 Cherry Street, Philadelphia, Pa.

### We Suggest . . .

A number of things could be causing this condition, such as a



clogged crankcase ventilator or a clogged return hole in the dis-

tributor adapter. This adapter should be removed from the block and thoroughly cleaned.

#### The Problem:

We have a 1949 G.M.C. truck on which the engine creates excessive sludge in the rocker arm cover and the crankcase breather. It gets so bad that it is hard to get a reading on the dip stick.

**What we did:** The engine was torn apart and a new set of rings were installed. Still no improvement. **Submitted by:** Snapper's Service Station, 102 E. Street, Holland, Tex.

### We Suggest . . .

Usually when excessive sludge forms in an engine it is due to improper crankcase ventilation, rich mixture when the engine is idling or too cool engine operation. Clean the breather pipe, carefully, and the oil filler cap. In some cases, running the hose from the fan to the filler pipe will help the condition. The carburetor should be adjusted frequently and the exhaust gas analyzed for rich mixture. Make sure that the thermostat is installed and working properly. A high reading thermostat is most desirable. Avoid letting the engine idle for long periods. Adding an oil filter or changing the cartridge more frequently will also help. The carburetor air cleaner should be cleaned periodically as a restricted air cleaner will cause a rich mixture.

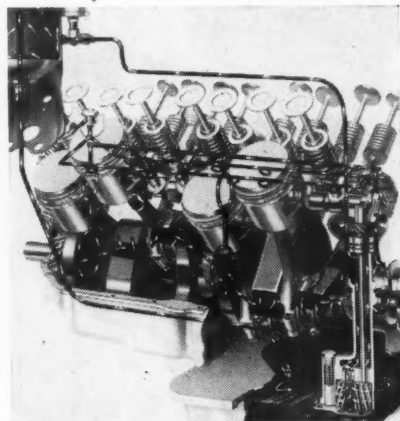
#### The Problem:

We have a 1948 Ford truck equipped with a heavy duty engine which has hydraulic valves. The tappets are noisy when the engine oil pressure falls off a little.

**What we did:** We ground the valves, replaced all the hydraulic lifters and set them to specifications, but the noise still appears when the engine gets hot.—**Submitted by:** Germak's Garage, Kensington, Phila., Pa.

## We Suggest . . .

Make an oil pressure test on the bearings to see if the clearance



is excessive. Check the oil pump gears for wear. Make sure the oil is clean and is changed regularly. In general, noisy lifters come from dirt in the oil, or worn lifters, or from low oil pressure. It also could be that there is too much oil in the crankcase. If the oil level is too high, the oil will foam and cause air to get into the lines.

#### The Problem:

We have a Pontiac that is burning oil after an overhaul. It burns a quart of oil every 250 to 300 miles.

**What we did:** Installed new rings, bearings main and rod, tested the compression and checked it for oil leaks. Also we by-passed the vacuum pump. **Submitted by:** M. A. Novak, Chamberlain, S. D.

### We Suggest . . .

Check the piston clearance to the cylinder bore. Also examine for loose wrist pins and see that the intake valve guides are not worn. Check the breather system to make sure it is working properly. Then road test the car, noting the color of the exhaust smoke. This can be done by driving the car down a hill in gear with your foot off the throttle. If, upon applying the gas, a cloud of smoke comes from the exhaust, it is a pretty sure sign that the oil is passing the rings or is being drawn up the valve guides. If no smoke appears, look for leaks

(Continued on page 70)



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# New Car Registrations by Makes by States\*

January, 1951

STATE	Buick	Cadillac	Chevrolet	Chrysler	Crosley	De Soto	Dodge	Ford	Henry J	Hudson	Kaiser-Frazer	Lincoln	Mercury	Nash	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willis	All Others	Total
Alabama	435	86	1598	137	6	101	292	1191	80	86	52	31	313	101	229	49	548	425	240	18	10	6,008
Arizona	173	29	397	38	7	37	81	369	14	61	23	12	99	46	106	30	129	119	124	8	8	1,910
Arkansas	266	47	1118	90	4	137	173	619	58	59	37	14	182	90	161	42	461	299	122	38	1	4,018
California	2417	1129	8254	1163	35	872	1841	5819	243	852	282	234	2298	1261	1482	516	3673	2597	2118	188	489	37,763
Colorado	437	92	1072	109	11	55	217	663	25	164	32	32	206	132	193	69	343	275	140	33	4	4,303
Connecticut	496	184	1649	213	6	149	319	1087	98	130	92	43	338	170	403	125	347	530	325	52	73	6,829
Delaware	156	26	427	42	6	33	101	311	15	25	17	10	74	32	93	17	96	144	108	8	5	1,746
District of Columbia	225	92	768	95	.....	48	123	445	19	37	13	18	126	56	151	38	255	265	100	11	29	2,914
Florida	723	218	1831	215	68	128	314	1250	164	145	112	78	493	166	436	146	593	742	288	80	179	8,369
Georgia	913	156	2723	270	18	179	633	2264	145	143	140	159	901	159	394	144	962	1358	595	83	47	12,386
Idaho	238	20	468	51	.....	39	85	303	16	68	31	11	106	61	96	35	172	157	139	24	1	2,121
Illinois	2310	527	6015	645	7	650	1435	3783	176	952	361	166	1334	826	1349	499	2154	2062	1029	58	21	26,359
Indiana	983	199	3238	322	10	295	653	2277	137	330	193	82	539	364	569	204	1114	1005	1131	57	6	13,708
Iowa	555	129	2412	163	5	131	356	1551	57	158	131	28	446	199	306	102	672	595	303	21	.....	8,320
Kansas	359	69	1197	136	10	84	246	791	37	123	67	28	263	175	188	80	380	277	178	12	.....	4,698
Kentucky	366	89	1507	130	7	104	257	1223	49	78	45	24	248	138	238	68	577	467	255	23	10	5,903
Louisiana	286	67	976	99	3	99	171	708	57	42	60	19	174	49	156	43	409	291	141	11	3	3,864
Maine	309	75	479	101	2	85	202	302	9	40	13	34	56	51	210	22	307	171	97	23	4	2,592
Maryland	470	116	2046	183	9	139	376	1239	118	171	62	43	291	179	277	126	613	459	276	26	26	7,924
Massachusetts	828	257	2722	343	17	330	593	2039	108	307	102	71	609	300	871	181	886	974	489	75	53	12,156
Michigan	2302	952	8314	480	9	531	1182	6982	330	706	434	180	1765	642	1364	418	2640	3009	842	55	17	33,154
Minnesota	920	168	2753	256	3	182	364	1734	83	168	218	26	341	238	408	164	822	993	488	37	3	10,369
Mississippi	347	74	1188	135	7	71	189	744	44	46	44	16	174	71	135	51	458	284	174	21	3	4,278
Missouri	822	148	3258	343	7	305	638	1944	83	155	233	53	613	461	580	172	1492	782	384	46	5	12,441
Montana	129	19	434	41	.....	24	75	244	15	70	18	7	67	43	85	25	130	122	64	12	1	1,625
Nebraska	418	95	1402	133	2	65	194	943	32	115	89	24	273	115	208	80	364	421	189	29	1	5,192
Nevada	56	21	107	26	1	13	20	101	4	13	7	4	26	11	10	10	71	29	23	4	1	558
New Hampshire	109	25	401	36	3	22	93	238	14	50	16	8	70	43	79	28	112	107	45	19	5	1,523
New Jersey	1194	390	3491	466	21	339	876	2434	225	366	225	118	826	362	701	304	745	1204	648	130	66	15,131
New Mexico	258	31	583	74	6	56	89	348	15	63	32	17	134	59	151	33	182	204	118	24	2	2,479
New York	3296	1014	7285	1496	41	893	2499	5717	424	686	659	300	1713	895	2177	648	2595	3623	1732	418	572	38,683
North Carolina	1035	157	3094	235	20	196	457	1874	213	136	152	55	581	191	431	155	712	768	398	38	31	10,929
North Dakota	183	19	572	64	1	50	108	411	13	33	35	8	64	48	85	54	225	174	79	16	.....	2,242
Ohio	2280	693	8048	782	49	655	1748	5705	276	622	356	188	1462	648	1567	513	2862	2621	1163	41	20	32,369
Oklahoma	249	109	1412	76	7	68	146	880	20	54	16	17	228	85	141	54	417	294	137	27	.....	4,417
Oregon	254	15	696	78	1	51	116	350	24	57	32	17	145	92	147	44	217	198	119	16	.....	2,674
Pennsylvania	2283	442	6616	847	25	863	1556	4317	304	480	302	157	1149	668	1412	445	2202	2179	1017	153	30	27,427
Rhode Island	155	62	711	90	1	71	128	560	22	44	16	14	93	60	194	36	174	158	91	11	12	2,703
South Carolina	485	101	1726	98	5	123	280	986	64	64	63	34	227	111	228	74	406	357	182	14	17	5,645
South Dakota	194	30	516	73	.....	43	102	330	22	58	48	12	109	52	112	65	158	179	82	5	.....	2,181
Tennessee	639	120	2328	190	30	147	452	1535	53	139	47	22	258	129	250	95	799	664	330	32	37	8,296
Texas	3974	624	9837	1129	34	717	2043	6079	348	486	277	228	2055	662	2226	434	3873	3082	1412	147	33	39,698
Utah	215	37	433	51	.....	60	80	411	7	96	20	9	110	42	126	35	148	201	127	11	2	2,222
Vermont	74	12	215	14	.....	12	25	141	7	17	8	5	35	32	46	30	62	74	28	24	2	863
Virginia	668	148	2920	256	16	168	438	1985	131	234	130	67	440	173	538	135	768	795	390	39	55	10,484
Washington	588	78	1493	188	13	157	363	988	80	120	103	31	282	206	369	101	654	383	339	37	51	6,602
West Virginia	305	51	1082	92	5	55	225	697	26	68	36	14	161	69	166	87	420	320	145	33	2	4,059
Wisconsin	851	169	2375	265	4	229	463	1450	58	231	120	37	424	437	576	158	778	822	435	23	14	9,919
Wyoming	170	30	336	34	.....	30	54	220	8	26	16	5	49	28	61	25	135	113	43	10	.....	1,393
Total—January, 1951	37396	9441	114523	12573	542	9891	23471	78562	4550	9334	5533	2810	22960	11228	22469	7000	39312	37382	19422	2421	1966	472,768
Total—January, 1950	28038	2737	84887	12090	519	8420	23684	70654	.....	9159	2968	1868	17551	7584	19592	4146	43407	27227	14404	1820	807	381,562

\* Data from R. L. Polk & Co.

## Clearing House . . . Continued from Page 68

### The Problem:

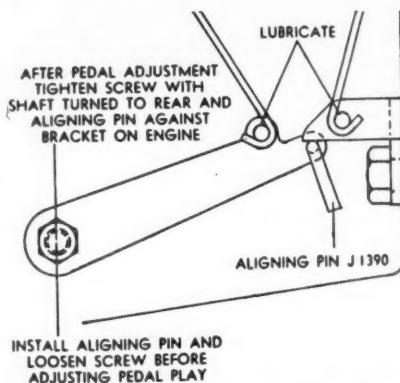
On a 1948 Nash Ambassador Model 4860, the clutch slips because the throw-out bearing rides the fingers. It won't release because the flat spring on the clutch linkage helper lever hits the fuel pump.

**What we did:** We adjusted the pedal to the proper clearance. No improvement. Then we reset the clutch fingers to get the clearance between the throw-out bearing and the fingers. But no one should have to tamper with these fingers to get this adjustment. Submitted by: Fred M. Deen, Akron, Ohio.

### We Suggest . . .

Install an aligning pin in the

hole provided on the helper spring arm. This pin holds the lever in its correct position. Make the pedal adjustment first and then,



loosen the nut on the end of the throw-out shaft on the helper spring arm. This allows the shaft

to turn in the lever to provide clearance between the fingers and the throw-out bearing. Tighten the nut and remove the pin.

### The Problem:

A 1937 Chevrolet 1/2 ton suburban model in our shop has developed a shimmy.

**What we did:** Checked the toe-in caster and camber. Everything proved all right. The truck worked OK for 2000 miles and then once again the shimmy started. Submitted by: D. Maier, Ft. Yates, N.D.

### We Suggest . . .

Balance the front wheels and remove all the play from the steering worm and the sector. Check the rear springs for sagging, causing the caster to change.



## "Big, easy profit deals also have a catch..."

"Any time someone offers you a parts deal where there is a big, fast profit, you can be sure there's a reason. There has to be. People aren't giving money away. Those outfits that produce substitute replacement parts have nothing to lose and if anything goes wrong, it's your reputation for honest workmanship that always takes the beating. That's why I'm sticking strictly to Original Factory Parts that have been tested and proven right by the car manufacturer."

J. J. Austin, 616 Marshall, Memphis, Tenn.

The outstanding customer satisfaction Auto-

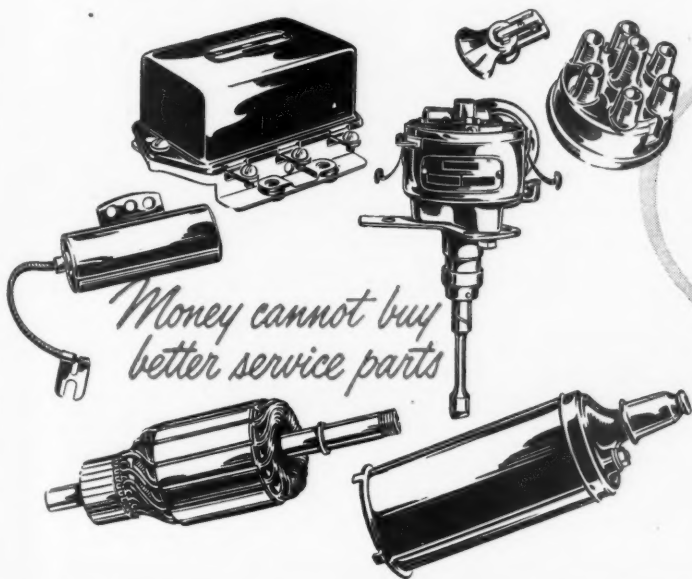
Lite Original Factory Parts afford service men is proved by this fact: more than half of America's car makers specify Auto-Lite. Make the wise choice of original factory parts and protect your honest workmanship . . . and build your business, your reputation and your profits. For full information, write to

THE ELECTRIC AUTO-LITE COMPANY

Toledo 1

Parts & Service Division

Ohio



*Money cannot buy better service parts*

"Tested Quality"

HELPS YOU DELIVER

AMERICA'S FINEST ELECTRICAL SERVICE

From blueprint to finished product, constant inspection and testing of all Auto-Lite Original Factory Parts assures quality of unfailing dependability . . . and is proven by exhaustive tests of leading automotive engineers who specify Auto-Lite as Original Factory Equipment on leading makes of many of America's finest cars and trucks.

ORIGINAL  
**AUTO-LITE**  
SERVICE PARTS

TUNE IN "SUSPENSE" . . . CBS RADIO THURSDAYS . . . CBS TELEVISION TUESDAYS



# Current Engine and Tune-up Specifications

MAKE AND MODEL	ENGINE						TUNE-UP DATA										STEERING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	Wheelbase (In.)	No. of Cylinders, Bore and Stroke	Taxable Hp.	Piston Displacement (Cu. In.)	Maximum Brake Hp. (At Specified R.P.M.)	Compression Ratio	Compression Pressure at Cranking Speed (Lbs.)	Spark Plug Make and Type	Rings		Valves				Ignition		Cooling System Capacity (Gals.)	Caster (Deg.)	Camber (Deg.)	Toe-In (In.)	King Pin Inclination (Deg.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
									No. and Width	Oil	Seat Angle	Stem Diameter (In.)	Inlet	Exhaust	Operating Tapet Clearance	Inlet Tapet Clearance						Timing	Timing Marks	Timing	Timing Marks	Breaker Point Gap	Spark Plug Gap	Spark Occurs	Timing Marks	Timing Marks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Buick Special 40	121 1/2	8-3 1/4x4 1/4	32.5	263.3	120-3600	6.8	114	AC-46X	2-3/8	2-3/8	45	45	372	HA	HA	HA	HA	13BT	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None

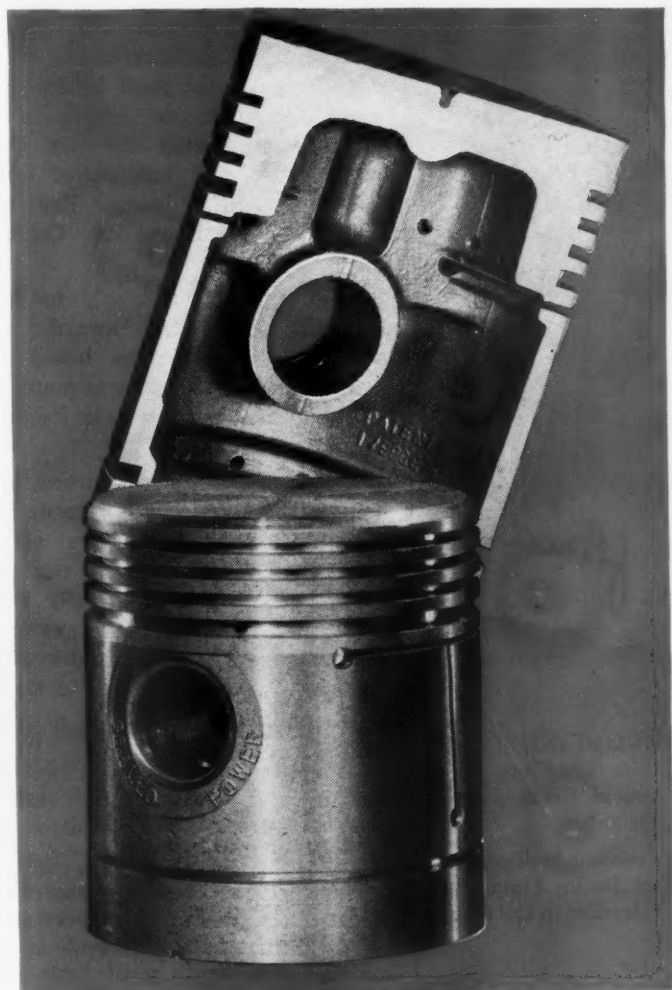
†—Used with Powerglide transmission at extra cost.  
 (a)—Model 61—122; 62—126; 60—130 in.  
 (b)—21 in. for TEL model; 25 in. for Cosmoopolitan model.  
 (c)—Upper Ring 1 1/2 in., Lower Ring 1.666 in.

(d)—Top ring .093; bottom ring .123.  
 (e)—D41 Fan Drive Pulley; D42 Vibration Damper.  
 (f)—Top Ring 1 1/2; Middle Ring 1 1/4.  
 (g)—Auto-Lite A-5; AC46-5; Champion J-8.  
 (h)—Upper Ring 1 1/2, Lower Ring 1.666 in.

AC—AC Spark Plug Div.  
 AL—The Electric Auto-Lite Corp.  
 AT—After Top Center  
 BT—Before Top Center  
 CC—Crankshaft and Camshaft Sprockets  
 CH—Champion Spark Plug Co.  
 CP—Crankshaft Pulley  
 DH—Distributor Housing  
 FV—Flywheel  
 HA—Hydraulic Automatic Adjustment  
 TC—Top Center  
 TG—Timing Gears  
 VD—Vibration Damper

ABBREVIATIONS  
 \*—With Standard Accessories  
 †—Fun or Minor 1 1/2  
 ‡—At 1/2 Camber  
 §—Deprecion in Camshaft Gear  
 ¶—1/2 in. for TEL model; 25 in. for Cosmoopolitan model.  
 •—1/2 in. for TEL model; 25 in. for Cosmoopolitan model.

# Sealed Power HEAVY DUTY PISTONS



## Built to outwear all other Pistons!

- ✓ Genuine Lo-Ex\* Aluminum Alloy for longest service.
- ✓ T-Slot for uniform heat transfer.
- ✓ Cam-ground for greater bearing area.
- ✓ Rugged internal construction with extra metal where needed.
- ✓ Heat-treated for maximum resistance to extreme pressure and high temperatures.
- ✓ Available with Ebonited surface, GI-60 groove insert and pin fitted.

\*Registered trade mark of Aluminum Co. of America

**For best results, re-power  
with Sealed Power Pistons!**

*Write for name of nearest distributor*

**SEALED POWER CORPORATION  
MUSKEGON, MICHIGAN**

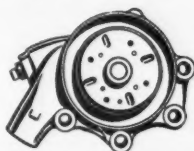
## Always use Sealed Power parts for best results



**HEAVY DUTY PISTONS**—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.

**WET OR DRY SLEEVES**—Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

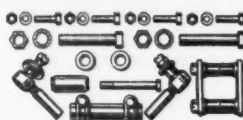
**VALVES**—Sealed Power Valves and valve parts are made from the correct grade of chrome nickel alloy steel for each engine, for finest performance and maximum service.



**WATER PUMPS**—Manufactured from finest quality materials to highest standards. Our line is complete.



**KING BOLTS & BUSHINGS**—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.



**TIE RODS & SHACKLES**—Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment.

## Economy Run . . . . Continued from Page 51

only the following stock options were permitted:

1. One size leaner jet in the carburetor was allowed in all cars to compensate for the high altitude operation.

2. Optional differential gear ratios could be installed under supervision of the officials of the AAA if those ratios were listed in the

factory manual as available to any car purchaser.

3. Mechanical improvements in design were incorporated in the cars under AAA supervision up to February 16.

4. The maximum spark advance of 15 degrees before top dead center was allowable.

Senior engineering students from

California Institute of Technology were selected by the AAA contest Board as observers in each car. Before the run they were briefed on the many possible methods of trick driving.

The cars were chosen from dealers' show room floors and factory storage lots. Each car was taken to the nearest general petroleum station where all lubricants were drained and replaced with lubricants recommended by this firm. Then all the parts were sealed by a AAA inspector and the car driven or shipped to the impound area in Los Angeles. On railroad shipments the box cars were sealed and left sealed until opened by A. C. Pillsbury, Regional Director of the AAA Contest Board.

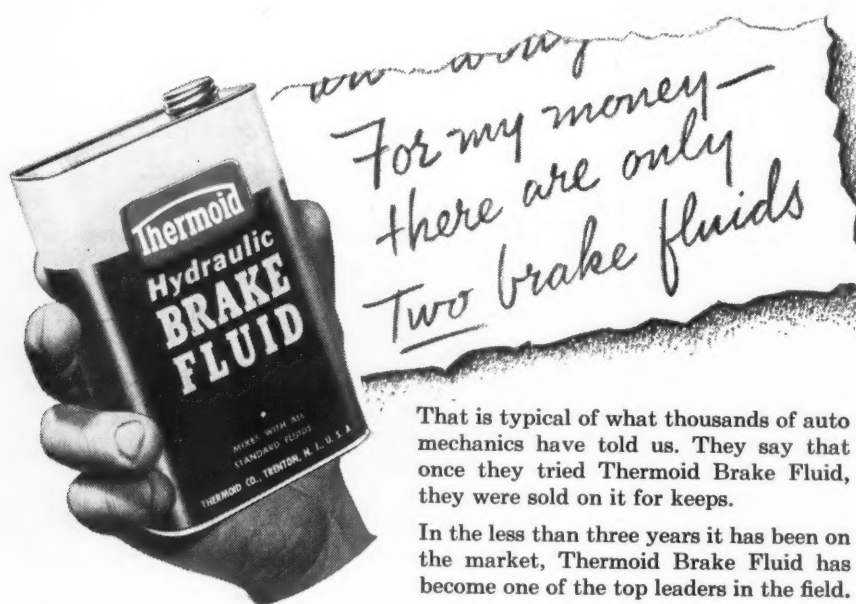
Cars competed not only for the over-all sweepstakes award, but also in eleven classes based on price, so that each car was matched only against others within its own price range.

The "ton-mile-gallon" rating under which the winners were determined is used to insure equal fairness to every entrant regardless of size and weight. By this method the weight of the car and the passengers is multiplied by the mileage of the course and divided by the number of gallons of gas used.

### Regulation X Affects Your New Building Plans

The outright ban on commercial types of construction has been relaxed slightly, but all projects costing \$5,000 or more must have the approval of the nearest National Production Authority field office. A new curb entered the picture, however, when the Federal Reserve Board amended Regulation X so as to require that mortgages for such construction must not exceed half the completed cost. This credit restriction also applies to maintenance and repair operations costing more than \$5,000. Approval of NPA must also be obtained for maintenance or repair work costing more than this amount, but M-4 as now amended, permits expansion or like improvement of office and loft buildings without NPA approval, if the cost does not exceed 25 cents per square foot.

## Thermoid Brake Fluid Hits The "Best Seller" List



That is typical of what thousands of auto mechanics have told us. They say that once they tried Thermoid Brake Fluid, they were sold on it for keeps.

In the less than three years it has been on the market, Thermoid Brake Fluid has become one of the top leaders in the field.

### Here Are The Facts on Thermoid Brake Fluid

Meets or exceeds SAE specifications. Fortified with corrosion inhibitors to protect rubber and metal parts. Will not swell rubber cups. Mixes with all recognized quality fluids. Two types available—Type "A" for passenger cars and light trucks. Operates dependably from 60° below zero to 230° above. Type "HD" for heavy duty flows at minus 60° but has a boiling point well over 300°.

Try Thermoid Brake Fluid—and check results for yourself.

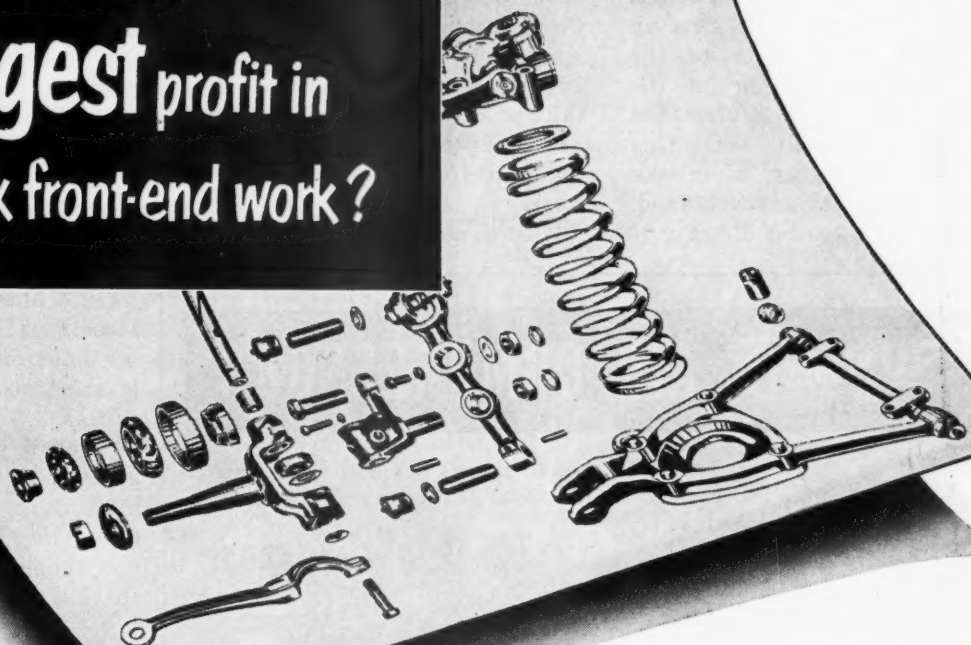
# Thermoid

Thermoid Company • Trenton, New Jersey

the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.



Where is the  
**biggest** profit in  
Buick front-end work?



Whether you're doing wreck repair or replacement due to wear—on any Buick front-end work, there is one rule to follow, and 4 profitable reasons why:

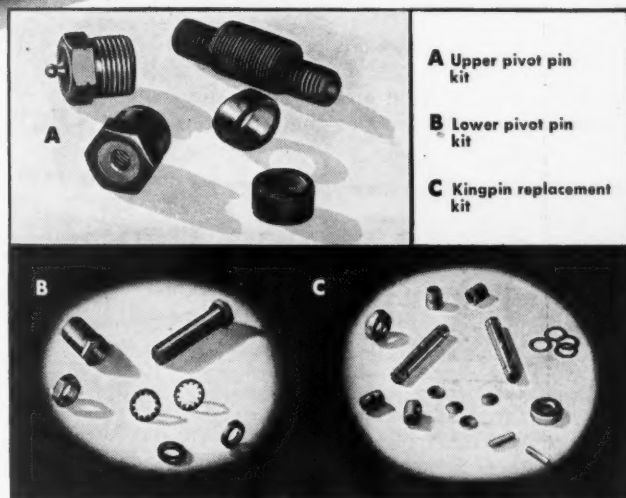
**Use only Buick Factory-Engineered Parts on the job. Because—**

(1) Buick Parts are competitively priced and cost you no more than substitutes which may not be up to Buick specifications and standards.

(2) The job goes together easily—saves your time, which means money. And during that final, delicate, ticklish lining up (whether you do it yourself or send it out)—Buick Parts save still more time.

(3) You can buy handy *kits* for most replacements, such as pins and bushings—every piece you need, factory-packed and sealed. No time lost hunting around in bins and boxes!

(4) Your customers get an entirely satisfactory job. So you protect your own good name, while avoiding complaints and comebacks.



**A** Upper pivot pin kit

**B** Lower pivot pin kit

**C** Kingpin replacement kit

ENGINEER APPROVED ACCESSORIES



FACTORY ENGINEERED PARTS

**You get the biggest profits out of Buick repair work when you use Buick Factory-Engineered Parts. Get them from your nearest Buick dealer.**

**Better work with Buick parts**

**see your Buick dealer**

## Quiet Please . . . .

Continued from Page 53

have to be replaced, due to worn threads on this part. Thumps may also develop at the steering arm where it connects to the brake backing plate or in the backing plate itself. Unless the parts are excessively worn, this noise will disappear when the steering arm bolts are tightened.

Rubber bushings on direct act-

ing shock absorbers are a common cause of suspension noise. When these rubbers become dry and worn, metal to metal contact causes a continuous rattle or thump. These rubber bushings are inexpensive, and should be replaced if they show signs of wear.

Also a noise similar to that of

worn shock absorber connections will be heard when the stabilizer bar mountings become worn. The stabilizers are mounted in rubber which may wear out and allow metal to metal contact.

**Rear End Noises.** Worn rear spring rubber shackle bushings are a common cause of rattles in the rear. To locate this rattle without a road test, shake the car from side to side horizontally as well as up and down. This makes the spring hit against the metal shackle if the rubber bushing is worn. Another condition which sometimes shows up in shackle bushings, especially on new cars, is a dry condition which causes squeaks. To eliminate the groan or squeak, loosen the shackle and apply rubber lubricant to the bushing, bouncing the car to work the fluid around all parts of the rubber. Then retighten the shackle.

Tail pipe vibrations are a frequent source of noise. Because the pipe is wound around in a fairly limited space, it has very little clearance at certain points. For instance, on cars where the spare tire well drops below the level of the trunk and the tail pipe raises over the rear axle close to the well, sometimes a dislocated pipe will vibrate against the well. If the car has been backed into a high curb or some other obstruction which forces the tail pipe forward, the tail pipe

(Continued on page 78)

## BRUNNER AIR COMPRESSORS

"We have always felt that Brunner Air Compressors offered the biggest dollar value in performance, dependability and service life but...

## don't take our word for it...

Most Brunner customers 'sold' themselves by making point by point comparisons. Obviously, we'd like to see you depending upon Brunner Compressed Air too and for that reason invite your request for a Brunner catalog as the first step in getting acquainted."



J. W. THOMAS  
Sales Manager



A. D. SULLIVAN  
Chief Engineer



**SEND IT.** I'd like to see and read the reasons why Brunner Air Compressors are selected by other men who recognize the importance of compressed air in the successful operation of their business.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

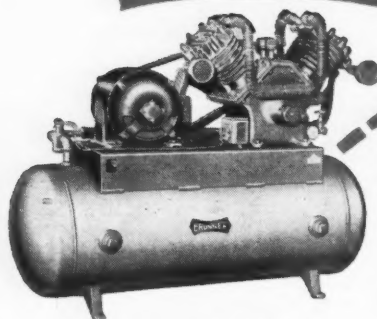
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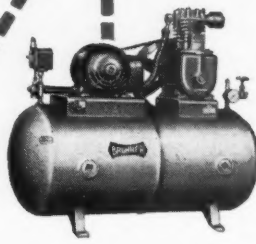
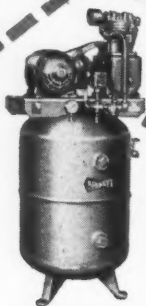
BRUNNER MANUFACTURING COMPANY, UTICA 1, NEW YORK, U.S.A.

**BRUNNER**  
SINCE 1906

**AIR COMPRESSORS**  
...a size and type for every purpose



- SINGLE STAGE 1/4 HP. TO 2 HP.
- TWO STAGE 1 1/2 HP. TO 15 HP.



BRUNNER AIR COMPRESSORS have been in automotive service for 45 years.



# PP the best answer to our tool needs 99

## Snap-on\* Service

Men like these . . . 800  
**STRONG** bring  
Snap-on Service to shops  
everywhere



Willie B. McMillan  
Dallas Branch



Fred B. Reeve  
Philadelphia Branch



W. H. Brooks  
Charlotte Branch



Art Charlton  
Vancouver Branch



John W. Barkell  
Minneapolis Branch



Hugo V. DiGiantomasso  
Los Angeles Branch



H. E. Campbell  
Pittsburgh Branch



E. L. Morgan  
Indianapolis Branch



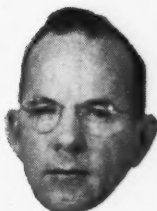
Erwin Rawlings  
Chicago Branch



Rudolf Grunsfeld  
San Francisco Branch



Thomas L. Addis  
Syracuse Branch



Clyde R. Hudson  
Buffalo Branch



Ralph Parham  
Jacksonville Branch



James E. King  
St. Louis Branch



Walter H. Schroeder  
Seattle Branch



Evert H. Caton  
Kansas City Branch

February 12, 1951

Using Snap-on Tools is a habit in our shop.  
The combination of Snap-on quality and Snap-on  
service through their salesman, Mr. Hugo Biegel,  
has proved the most economical, time-saving,  
satisfactory answer to our tool needs.

*Jack Warner*

Jack Warner, Service Manager  
Taylor's Inc.  
19711 Livernois Avenue  
Detroit, Michigan



## Snap-on\* Tools

● Service Manager Warner tells you  
why thousands of shops—tens of thousands of mechanics—  
look to their Snap-on Man for what's new and best in hand  
and bench tools. *Snap-on Tools plus Snap-on Service!* Top  
quality *professional* tools, brought right into your shop—  
right to the bench—where a man can select and try them *on*  
*the job!* No waste time. No guesswork. He *knows* the tool's  
the one he wants—that it does the job properly. Shops and  
their men, the nation over, have boosted income 20 to 40  
per cent after equipping with Snap-on Tools. Write for your  
copy of the 104-page Snap-on Catalog of more than 4,000  
quality tools.

\*Snap-on is the trademark of  
Snap-on Tools Corporation.

**SNAP-ON TOOLS  
CORPORATION**

8036-D 28th Avenue  
Kenosha, Wisconsin





## Quiet Please . . . .

Continued from Page 76

hits the frame or the body. Tail pipe brackets may be another source of noise. These are subjected to the elements so that eventually they may rust through and break. Sometimes the rubber will deteriorate and allow the tail pipe to shape excessively. Examine these brackets carefully and replace whenever necessary.

**Miscellaneous Body Noises.** There are probably ten thousand body noises which a mechanic may run into, most of which are fairly easy to locate. In fact on a general body tightening job many of the common rattles and noises can be eliminated. However, some of them are harder to find. Since automobiles are built by human

beings, not every car can leave the factory assured of being perfect, and after it has been driven awhile, noises are bound to develop between certain connecting metal parts. Door locking mechanisms and window channels are serious offenders when it comes to noise. Many other noises within the car turn out to be simple, such as parts rolling around underneath the seat, loose items in the glove compartment, or a loose glove compartment door. Sometimes an under-the-seat rattle is due to the seat adjustment mechanism. A long rod runs the width of the seat and occasionally needs an anti-rattle spring to stop it from vibrating. Cars with hydraulic window mechanisms often get small vibrations and rattles which must be removed by shimming up parts.

Noises may also emanate from loose hood latch mechanisms, loose radiator mountings, loose rear deck lid hinges, loose windshield washer fluid jars, motion between the body panels and so forth.

Due to the difference between a customer's interpretation of a noise and the actual noise as the mechanic hears it, never take on a "remove rattle" job without riding with the owner first. Let him point out the specific noise that he wants eliminated, so that there is no misunderstanding later. Then, when the job is turned back to the owner, let him ride with the mechanic again, so that he can see that the noise is gone. Squeaks and rattles can be a touchy business, so special care should be exercised in customer relations.

### Perfect Circle to Continue as Company

Ralph R. Teetor, President of Perfect Circle Corporation, and Fred C. Crawford, President of Thompson Products, Inc., have announced that the pending merger of Perfect Circle into Thompson Products will not be completed.

The Department of Justice advised that in its opinion the merger would be in violation of the anti-trust law and that if it were put through the Department would institute litigation.



*For Best Results . . .*  
**CONTACTS** *Must Be Good!*

All these ECHLIN Extras at no extra cost to you...

MIRROR FINISH TUNGSTEN    FREE FLOATING SPRING  
COPPER CONDUCTOR STRIP    GREATER PRECISION



# ECHLIN



*Ignition*  
CONTACTS  
COILS • CONDENSERS  
& OTHER AUTOMOTIVE  
ELECTRICAL PARTS

ECHLIN MANUFACTURING COMPANY, Dept. MA, 220 EAST ST., NEW HAVEN 5, CONN.

# Easier to apply than wax... makes you bigger profits



## DU PONT *Spray Glaze*

**new beauty process  
for cars**

### OUTSHINES THE BEST WAX JOB... YET TAKES LESS TIME AND LABOR TO APPLY

#### WHY YOU WILL LIKE DU PONT SPRAY GLAZE

1. Outshines the best wax job
2. Lasts as long, or longer than wax
3. Saves time: spray it on—wipe it off
4. No masking of glass is needed
5. Spray whole car at one time,  
or
6. Interrupt the job if you wish
7. Costs little; 6 oz. does almost  
any automobile
8. Applied only in shops with a  
spray gun

Dealers everywhere acclaim it as a great time-and work-saver—and along with enthusiastic customers, they praise the glorious, lasting shine this new Du Pont Spray Glaze process puts on a car!

Why spend long hours waxing cars when you can apply Du Pont Spray Glaze in much less time and get even better results? Save time—turn out more jobs with the same amount of labor—make extra profits.

Du Pont Spray Glaze (patent ap-

plied for) is not just a polish or wax but a new car-beauty process applied with a high-pressure spray gun. It is exclusively for shop application.

Throughout 1951, big Spray Glaze ads will appear in SATURDAY EVENING POST and COLLIER'S, sending customers to you for this completely new car-beauty process!

For an initial investment of approximately \$50 you can start a profitable Spray Glaze business. Ask your jobber about it.

#### Here's what dealers say about new Du Pont Spray Glaze

"Easier and faster to apply... and we have never seen a better lustre." Mike Hrabec, Cecil Motors, Inc., Dodge & Plymouth, Elkton, Md.

"Since we took on Du Pont Spray Glazing we have practically eliminated all ordinary polishing and waxing." Al Bonifacio, Diamond Midtown Station (Gulf), Wilmington, Del.

"Du Pont Spray Glaze is superior to any polish or wax on the market. Have done over 100 Spray Glaze jobs." Francis Sheeler, East Gas Garage, West Chester, Pa.

*Ideal for new cars  
as well as old!*

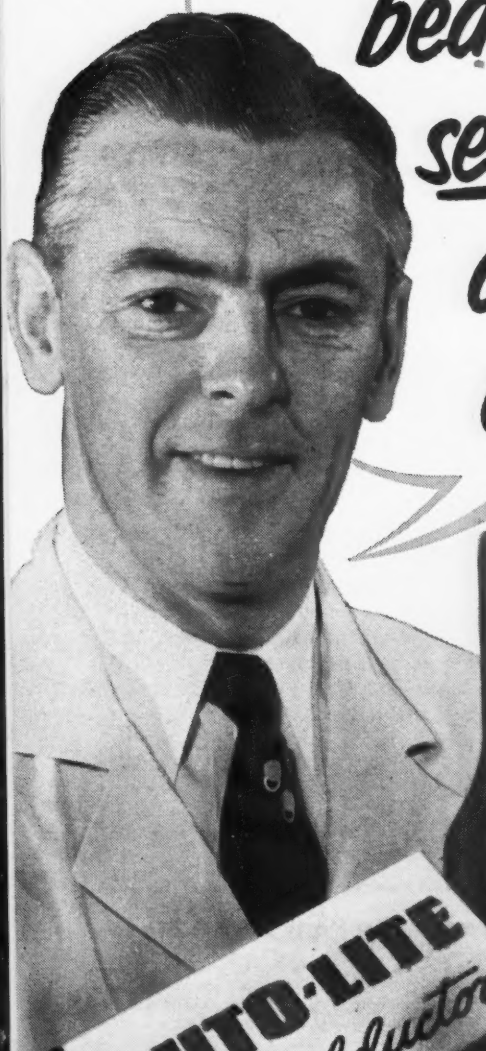


REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

# AUTO-LITE *is a*

*Auto-Lite wire and cable is  
beautifully packaged...  
sells on sight...meets every  
car need. It's original  
equipment, too.*



BACKED BY THE BEST ADVERTISED NAME



# complete wire and cable line

PLUS

## AUTO-LITE "Steelductor" SPARK PLUG WIRE

This outstanding Silver Sheathed Auto-Lite Steelductor high tension ignition cable employs a seven-strand conductor of stainless steel instead of the conventional nineteen strands of copper wire. Gives remarkable improvements in performance when employed in shielded circuits.



PLUS

## AUTO-LITE "Flextrand" PRIMARY WIRE

Highly resistant to attacks of heat and oil, Auto-Lite Silver Sheathed Flextrand primary wire permits easier stripping and soldering . . . gives long life . . . and is easy to install.



PLUS

## AUTO-LITE "Power Line" BATTERY CABLE

Auto-Lite Battery Cable, complete with the new Power Line Terminal that resists corrosion . . . assures excellent contact . . . complete customer satisfaction.



It will pay you to switch to the Auto-Lite Wire and Cable Line . . . the complete line—Steelductor Spark Plug Wire, Flextrand Primary Wire and Auto-Lite Power Line Battery Cable with the new Power Line Terminal that holds tight. Sign up today with Auto-Lite for the best dollar-making merchandising combination in the industry, write to

**THE ELECTRIC AUTO-LITE COMPANY**

Merchandising Division

Toledo 1, Ohio

Toronto, Ontario



The Auto-Lite Wire and Cable Catalog, giving complete specifications for every automotive vehicle, is available on request.

MAN THE AUTOMOTIVE AFTER MARKET

## Pop O'Neill . . . . . Continued from Page 45

"Sure," replied Larry. "We can fix it. But not in no five minutes! I heard you tellin' Tommy here that it's been looked at in two other shops. We don't want you to go around addin' us to that list. Now you leave it over night. Pick it up tomorrow."

"But—"

"No buts," said Larry. "We ain't

workin' against time. We're gonna fix your car right."

"But how can I get home?"

"The train leaves in exactly seven minutes," said Larry, glancing at the big wall clock. "Take him down, Tommy."

"But I have all this gardening impedimenta," remonstrated the Professor, waving vaguely at the

back seat.

"We won't let your rake rust overnight. And them vegetables won't rot, seein' as their only seeds."

But finally Professor Graham could not leave all his cherished purchases. And when Tommy had set him safely on the train platform, his arms were full and his control over them was incredibly slight. Tommy watched in astonishment as the Professor mounted the train steps, but to his relief the tall, slightly stooped figure finally disappeared inside the car safely. He turned and drove back to the garage, stopping on the way to get a carburetor overhaul kit.

For some reason Larry Tait seemed particularly anxious to do a good job on this car. And the overhaul went smoothly and rapidly and was, Tommy admitted, extremely well done. When the carburetor was replaced, however, there was no improvement in the rough engine.

"Get the vacuum gage," said Larry.

They attached it and found low vacuum.

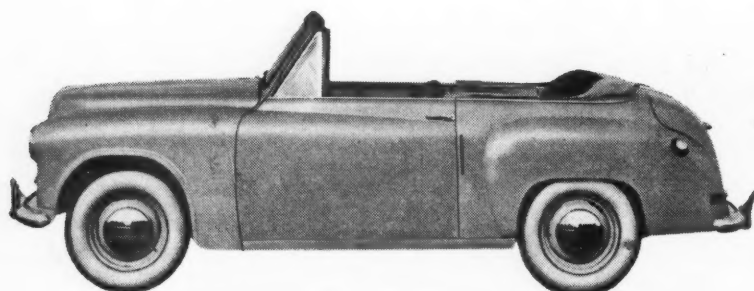
"It's the manifold gaskets," Larry remarked. "It must be leakin'."

And together Larry and Tommy soon replaced them. Again there was no improvement. When the gage was put back, the vacuum still read low, with no apparent change over the reading before the mani-

(Continued on page 84)



HILLMAN Minx 3-way convertible



## More and More Hillmans are on the road!



When they stop at your place for service, you'll find the Hillman Lubrication Chart a great help in speeding up your work and insuring a thorough job.



Send for your FREE copy of this chart and put it up where your service men can consult it.



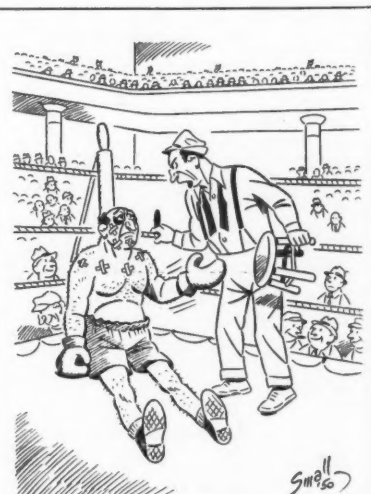
If you have showroom and service facilities, wire or write for franchise information. A few good dealerships are still available.

### ROOTES MOTORS, INC.

27-11 Bridge Plaza North, Long Island City 1, N. Y.  
403 North Foothill Road, Beverly Hills, Calif.  
ROOTES MOTORS (Canada), Ltd. 170 Bay Street, Toronto, Ont., Canada

# HILLMAN *minx*

A Product of the Rootes Group



"You'll get your stool back when you fight a decent round!"

# PROVED!

## Ads in Country Gentleman Help You Sell More Goods!



For travel the Davises, Oklahoma Country Gentleman family, have 2 cars; for farm operations, 4 tractors, 2 trucks, a combine and other equipment.

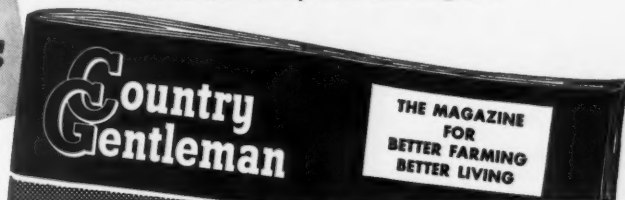
When a manufacturer puts an ad in Country Gentleman, it's the strongest kind of help to you in selling your best rural customers! This has been proved in a nationwide survey of men and women heads of Country Gentleman homes. Not only do they read Country Gentleman more, use it more, like it more than the other big farm magazines—but they also . . .

- 1** READ THE ADVERTISING in Country Gentleman...in 96.2% of homes.
- 2** GET BUYING IDEAS from the advertising in 3 out of 4 homes.
- 3** RECALL DEFINITE BUYING IDEAS in over 3 out of 4 of these homes.

... that's why dealers like you give  
Country Gentleman a lead of more than 2 to 1  
when voting for the farm magazine that helps most to sell local customers

That's why Country Gentleman also rates first with advertisers. They invest more advertising dollars in Country Gentleman than in any other farm magazine.

*GREATER POWER TO MOVE PEOPLE  
GREATER POWER TO MOVE GOODS*





# BECOME KING OF THE SHOP..OWN A Treasure Chest



## Fit for a King YET THEY COST NOTHING EXTRA

The low price of the 1/2" drive Ball-Head Ratchet (above). Its low cost and its exclusive features are typical of the whole Blackhawk line. Check prices on all lines! Compare quality! You'll end up buying Blackhawk Wrenches.

To get a "Treasure Chest"—ask for either 70R (67 wrenches) or 90 R (87 wrenches), both in beautiful R case.

## Blackhawk Wrenches help you look, feel, and work like a professional

If you make your living with wrenches, you're a *professional* mechanic... and you deserve to have *professional* wrenches! Tool for tool—every item in this "Treasure Chest" has more professional qualities than any other you could own. You'll be the envy of the shop with these gleaming, silver-bright Blackhawk Wrenches. You'll beat flat rates and win preferred customers, too. Buy Blackhawk Wrenches from your Blackhawk jobber. A Product of BLACKHAWK MFG. CO., Dept. W-641, Milwaukee 1, Wis.

Give yourself a break! Don't let ordinary tools hold you back!

# BLACKHAWK

WRENCHES • HYDRAULIC JACKS • "PORTO-POWER"

Prices subject to change without notice. Slightly higher in Canada.

## Pop O'Neill . . .

Continued from Page 82

fold gasket had been replaced.

"What'll we do now," said Tommy. "Shall we wait 'til Pop comes back?"

"'Course not," said Larry. "We can fix this just as well as Pop."

"What'll we do?" asked Tommy.

But Larry was extremely busy wiping off wrenches as he put them back in his box and he apparently forgot to answer. Just then, however, Pop O'Neill came in.

"Say, Pop," put in Larry quickly. "I bet we've got one here that'll stick you."

"What is it?" said Pop.

Larry explained that the Pontiac had been given a complete tune-up; the plugs had been cleaned and re-gapped; new points had been installed; the carburetor overhauled; the head bolts tightened; the fan belt replaced; the radiator flushed; and so forth. But there was no apparent improvement. Still it idled rough.

"Well," said Pop, "the trouble must be in the manifold. Have you tried replacing the gasket?"

With a triumphant smile Larry turned to Tommy, "I told you we could do everything he could."

"Well," said Tommy, "It isn't fixed yet! What do you suggest we do now?"

"Let's give the old timer a chance," said Larry magnanimously turning to Pop. "What do you suggest Pop?"

"It might be a sticker all right," said Pop. "Years ago I'd have blamed that on a burned out heat riser."

"What's a heat riser?" asked Tommy.

"It was a method of heating the intake from the exhaust," Pop re-



plied. "But I haven't heard of anyone having trouble with the modified system now used."

"That heating intake from the exhaust was a good idea," said Tommy. "Why don't they do it that way today?"

"Yes, it was a good idea," said Pop. "Today they have an automatic damper put into the manifold. It does the same thing."

He puckered his lower lip between his stubby thumb and forefinger. His brow furrowed and he went into deep thought.

"Sh-sh," said Larry to Tommy. "The genius is thinking."

When the genius spoke, he said, "Let's pour a little kerosene in the intake to produce some smoke."

"What good will that do?" asked Larry curiously.

"Then we shut the ignition off," Pop kept talking, "and if smoke backs up through the carburetor, then we've probably got a hole in the heat riser tube. It has to be coming from the exhaust manifold. If we do see that smoke plus the low vacuum reading, then we can pretty nearly be sure that we have a burned out tube."

He turned to Larry, "Can you think of any other way that smoke might get into the carburetor from the combustion chamber?"

Larry shook his head and poured a little kerosene into the carburetor. In a minute smoke came pouring out the tail pipe and Pop signaled to Tommy to turn the engine off. Larry and Pop had their heads together over the engine when Tommy stepped out of the car. Try as he would he couldn't crane over the two broad backs.

"Is she smoking?" he finally asked.

(Continued on page 86)



# For NEW INCOME ---Use these BRUTES



EA-11  
20-ton

D8.7  
12-ton

BA8.5 — 3 tons  
AA8.5 — 5 tons  
CB.9 — 8 tons

**Here are three "extra money" ideas you can put to work right now on a small investment**

## SELL THIS PAIR FOR *fast profit*

Set up a display of these fast-movers and watch car and small-truck owners give you quick turnover.

**J-18** — today's best buy in hydraulic bumper jacks. Big exclusive features. It's a quality jack.

**TB-7 "Wings"** Jack. Built "close to the ground" to get under low axles. Attractively priced.



**1. GET SET TO PROFITABLY SERVE THE HEAVY TRUCK TRADE!** If your budget doesn't permit buying extra-heavy-duty wheeled jacks — you can do the job excellently by getting Blackhawk Hand Jacks . . . the kind fleet men and truckers use themselves.

**2. SPEED UP SHOP JOBS** — put hydraulic Hand Jacks to work on the heavy press and push work. Eliminate costly time-taking hammering and straining.

**3. STOCK BLACKHAWK TRUCK JACKS FOR RESALE** — Display them and truckers will buy. The market is big!

Buy the best jacks . . .  
buy from your Blackhawk Jobber

# BLACKHAWK

Blackhawk Mfg. Co., Dept. J-641, Milwaukee 1, Wis.

"PORTO-POWER" • "RECK-RACK" • WRENCHES

Pop simply grunted. Larry stuck his head up and nodded, "Yup, just what we thought."

Tommy smiled, but Larry didn't say anything. He merely glowered and looked back into the engine.

"That's it all right, Tommy," Pop finally said. "You run down and get a new heat riser tube. Larry will be taking out the old one

while you're gone."

"Lucky me," said Larry. "Again I don't get to ride downtown and Tommy don't get to do the dirty work. That's what I get for being such a good mechanic."

"Yes, I suppose it is," said Pop. "Or else it's because every time I send you on a dime errand you lose ten pennies. You're just kept around

here to find the right answers for the hard ones."

"Yes," said Tommy. "Larry reminds me of an old lady who visits Joe the Bookie every day. She can always pick the winners."

"Lady," said Joe last week when he was counting out some of his hard-earned money into the old lady's wrinkled hand, 'I just don't understand how you manage to pick winners everyday.'

"She patted her hair in place, 'Oh,' she said. 'It's quite simple. All I do is stick a pin in the entry list and the name pricked is the horse I bet on.'

"Joe's hand fluttered, but he kept on counting. He took a deep breath. 'That's fine, lady,' he said, 'but how come you managed to pick four winners yesterday afternoon?'

"'Oh,' said the old lady, 'that was easy, too. You see I couldn't find a pin so I used a fork.'"

#### Excess Profits Tax Cuts Nash Net

Nash-Kelvinator Corp. has revised downward, its earnings for the fiscal year ended last Sept. 30, because of the excess profits tax act which reduced income by approximately \$1.7 million. After provision for the additional tax, earnings were \$28.8 million compared with an earlier report which had indicated that profit would be \$30.5 million for the year. For the first quarter of its current fiscal year, the three months ended Dec. 31, the company has reported net earnings of slightly more than \$5 million. For the same period a year ago, profit was \$4.2 million.

... TUTHILL SPRINGS ...

# FIRST

# LAST

# ALWAYS

For 70 years, Tuthill has been first in keeping pace with newest developments in the manufacture of replacement springs. Now . . . treated with **MOLYBDENUM DISULPHIDE (MoS<sub>2</sub>)** . . . Tuthill is first to offer springs that won't squeak or gall!

Since 1880, only the finest quality alloy steel obtainable has been used in manufacturing Tuthill Springs . . . heat treated for greater strength, to take more abuse and last years longer!

Tuthill Springs are profitable to handle . . . always in demand because they're dependable and priced right.

To get premium quality without paying premium prices—whether it's a spring for heavy-duty trucks or easy-riding cars—you can rely on Tuthill first, last, and always!

*Ask your Jobber for a FREE copy of our Car Application Wall Chart.*









ORIFLOW SHOCK ABSORBERS  
SWALLOW BUMPS

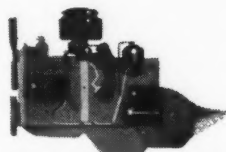


COMPLETELY WATERPROOF  
IGNITION SYSTEM



No other car rides like a

# DESOTO



MORE POWERFUL  
HIGH COMPRESSION ENGINE



LETS YOU DRIVE  
WITHOUT SHIFTING

You ride without bouncing and drive without shifting. (Road shock has gone the way of the buggy whip!) De Soto is a haven of repose—for both driver and passengers. A citadel of safety (big 12-inch brakes!). A daily dividend in *extra value!*

DE SOTO-PLYMOUTH Dealers present GROUCHO MARX in "You Bet Your Life" every week on both RADIO and TELEVISION . . . NBC networks.

## Ignition System . . . . Continued from Page 47

forms of energy loss from the ignition system. Important prerequisites to adoption of a 12-volt system, therefore, are improvements all through the system, which will make it possible to handle the increased voltage, with a minimum of current loss. Engineers throughout the automobile industry, have been working to

solve this problem. Already, since any such improvement is equally valuable in the present 6-volt system, a number of 1951 autos featuring high-compression engines now are equipped with ignition units which are the direct result of this research.

Included among these are an entirely new distributor cap and

rotor, a redesigned contact breaker lever and a "boot" to cover the connection between the high-tension lead and the porcelain portion of the spark plug.

The new distributor cap is designed to minimize leakage and tracking due to moisture and oil-dust coating, which gathers inside the cap. Tests on older type caps proved that, when dampness and oil-dust coating are present, voltage often dropped as much as 33%, due to leakage. The redesigned cap reduces this loss to only 6% under identical conditions.

The new cap has a greater diameter, more height and taller towers than previous caps. This design allows greater lateral distance between the cap inserts and also increased the distance between the cap inserts and the center electrode of the cap. Two raised, vertical ribs are placed between each insert and its neighbor and two, concentric, circular, raised ribs are built into the ceiling of the cap, encircling the center electrode. All these ribs have very sharp edges, which aid greatly in breaking up surface leakage and preventing carbonized tracks between inserts. Ventilation in the cap is greatly improved through the provision of semi-circular air spaces behind each insert.

These changes in the distributor cap called for a correspondingly improved rotor. The new rotor, therefore, in order to compensate

(Continued on page 90)

**WHERE 1 DOES WELL**

**3 DO BETTER..**

**PENNZOIL**  
The Triple Shot  
MOTOR OIL

You multiply the tremendous sales advantage of Pennzoil motor oil, a leader by itself, when you sell Pennzoil Cha-Z-Lube, the exclusive, patented chassis lubricant, and Pennzoil Hydra-Flo, Type "A" automatic transmission fluid.

All three give you a triple shot at Pennzoil customers *who buy quality*. Find out about profit possibilities you can't afford to miss . . . and about the entire Pennzoil line of top quality lubricants for every purpose. Contact your nearest Pennzoil distributor, or write to us for his name.



**THE PENNZOIL COMPANY**  
Executive Offices  
Oil City, Penna. • Los Angeles, Calif.



**MORE SALES . . .  
BETTER SALES**



THIS BRILLIANT NEW



New Britain RATCHET REALLY

CLICKS



SET NO. 6050

This 50 piece New Britain Utility Tool Set includes both  $\frac{3}{8}$ " and  $\frac{1}{2}$ " Drive Sockets and Drive Parts together with most used Flat Wrenches and Screw Drivers.

There are many New Britain Tools with the soundness, quality and all 'round utility that excite admiration among mechanics . . . but this new Ratchet is so beautifully engineered, so tough, so sweetly balanced that one feel of it — and you're sold! It has everything . . . rugged strength, comfortable grip, triple plate, chrome finish and a s-m-o-o-t-h action that whips through work like a dream . . . in short — this New Britain Ratchet CLICKS, and how!

Check with your Jobber. He has this brilliant new Ratchet in  $\frac{1}{4}$ " —  $\frac{3}{8}$ " and  $\frac{1}{2}$ " Drive and a complete Line of New Britain Tools to go with it. So, no matter which New Britain Tool you need . . . remember it's no further away from you than your telephone. When you need a Tool — and, you *do* need this new Ratchet — PHONE YOUR JOBBER! The New Britain Machine Co., New Britain, Conn.



New Britain

GREATER STRENGTH • BETTER FIT **HAND-TOOLS**



## Ignition System . . . . Continued from Page 88

for the increased diameter of the cap, has a longer radius arm. The shank, which fits over the cam extension, is longer than in previous rotors, to compensate for the increased height of the cap and to increase the arc-over voltage. This longer shank also provides a longer bearing surface on the cam extension, reducing the tendency to

wobble. In addition, a circular, raised rib also was built into the top of the rotor so that it encircles the two concentric rings in the ceiling of the cap when the rotor is in place. This feature gives added protection against tracking of current directly from the center electrode to any of the inserts.

Oscillographic evidence proves

that this combination of improved cap and rotor, because of larger size, greater separation between inserts and improved ventilation will handle satisfactorily up to 5,000 more volts than will previous models, in all kinds of weather.

This increased voltage makes it desirable to provide a cam with a faster rate of opening and closing, in order to decrease arcing at low speed and increase contact angle for better performance at high speeds. To speed up the rate of point movement a different cam shape is required. But, before the cam shape can be altered, changes in the design of the contact breaker lever arm become necessary.

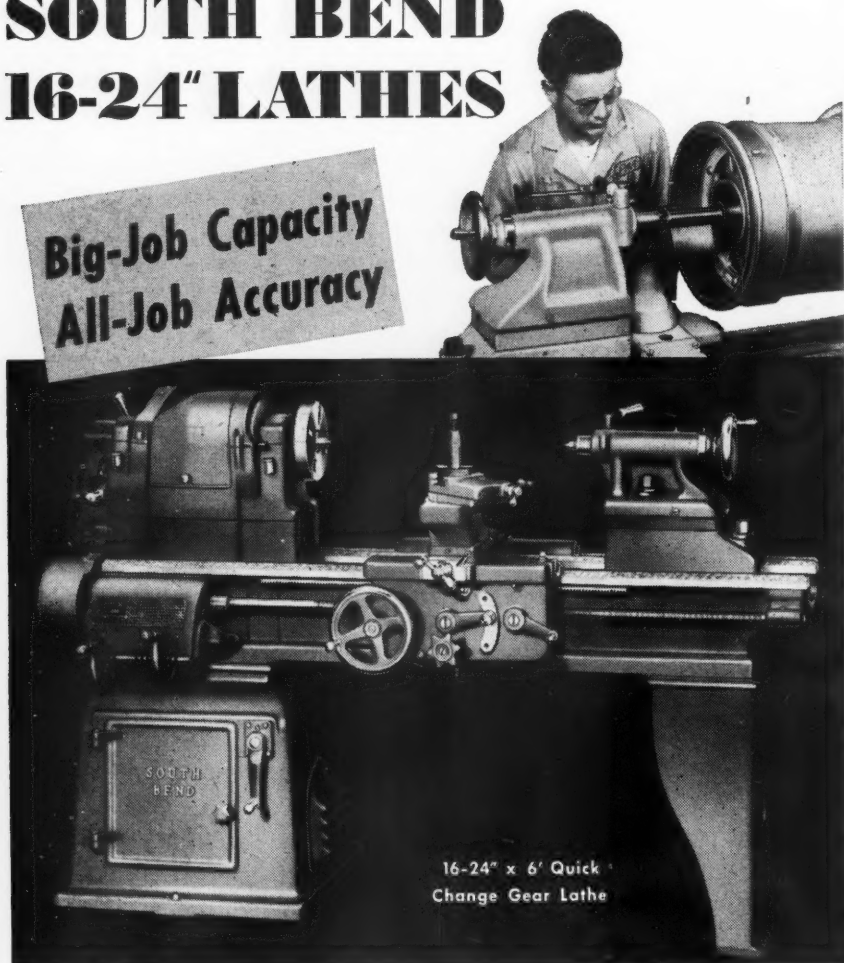
This problem has been solved by two salient improvements which have been made in the high-speed breaker lever. First, the lever has been built much stronger and changes have been made which provide a more rigid, and more firmly attached rubbing block. Second, the rubbing block itself is pre-formed, with a rounded rubbing surface. This permits a greater and more uniform contact angle throughout the life of the points and eliminates the necessity of special settings for newly-installed points.

The new, stronger, more rigid lever, with the pre-formed rubbing block, is capable of following a faster-breaking cam without bouncing, than has been possible in earlier models. This favorable performance will permit faster opening of the points, which is very

(Continued on page 92)

## SOUTH BEND 16-24" LATHES

**Big-Job Capacity  
All-Job Accuracy**



16-24" x 6' Quick  
Change Gear Lathe

Here's the lathe that will handle all of your work. Its 24-1/4" swing will take over-size jobs, including large brake drums... this is especially important if you are doing farm equipment or job work. Yet, you can handle routine collet, chuck and between-

centers work easily and accurately. This versatility will make your equipment dollars go further. Send today for catalog.

### SOUTH BEND LATHE

SOUTH BEND 22, INDIANA

Building Better Tools Since 1906



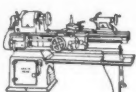
Send Information Checked:

☐ LATHE ATTACHMENTS

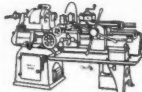


☐ 16-24" LATHES

☐ 9" and 10" BENCH LATHES



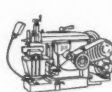
☐ 10" to 16" FLOOR LATHES



☐ 1/2" and 1" Collet TURRET LATHES



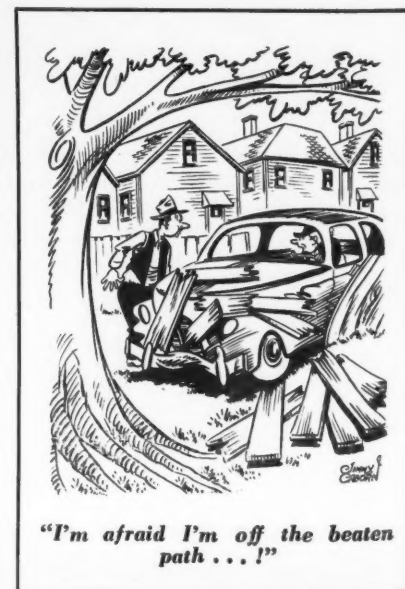
☐ 14" DRILL PRESSES



☐ 7" BENCH SHAPERS

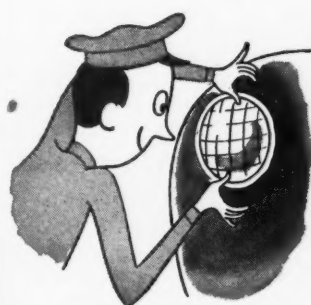
Name \_\_\_\_\_ Company \_\_\_\_\_

Street \_\_\_\_\_ City & State \_\_\_\_\_



# You can get extra sales on one car out of three during **GENERAL ELECTRIC'S AUTO LAMP DRIVE!**

**Here's all you have to do:**



## 1. CHECK UP!

Check lights of every car left for Spring changeover. Actual sales test last Fall proves that one car out of every three needs a lamp replacement.

## 2. JOT DOWN!

Use G-E snap-on memo card for marking down burnouts and bringing them to customers' attention. Slips onto steering wheel, is a proven sales-clincher.



## 3. RING UP!



G-E's Spring Auto Drive means extra sales for every dealer who ties in. Drive lasts from March 1 to April 30 and the sale possibilities are bigger this year than ever! Be sure you get in there to get your share!

**Here's how General Electric helps you do it:**



## ADVERTISING

General Electric auto lamp advertising will appear in the Saturday Evening Post, Colliers, Popular Science, and Popular Mechanics. Also on the Fred Waring TV Show.



## POINT-OF-SALE MATERIAL

Point-of-sale materials include lamp-holder, posters, lamp guide, snap-on memo card, sales booklet. All free. Aiming screen for \$2.50

**GENERAL  ELECTRIC**

## Ignition System . . . . Continued from Page 90

desirable in a 12-volt system, or in any system where improved low-speed performance is desired.

The final step in "tightening up" the ignition system for 12-volt application was to provide a "boot," or cover to fit over the junction of the high-tension lead and the porcelain portion of the spark plug. It is known that the oil-dust and

moisture combination which forms on the porcelain of the plugs often greatly reduces voltage available to the plug. Also, current frequently will flash-over from the high-tension lead end to some adjacent part of the engine.

To be successful in service, such a "boot" must satisfactorily resist high temperature, the degenera-

tive effects of corona and oil, and must insulate sufficiently to prevent undue leakage of the increased voltage. A silicone rubber "boot" has been found excellent for this purpose. There are other substances, however, that also may be used.

A summary of the advantages gained by use of the new cap, rotor, breaker lever and spark plug "boot" shows that an ignition system so equipped will lose a maximum of only 12% of the available voltage even when oil-dust coated and wet. By comparison, a system equipped with standard units drops the voltage by as much as 53% under identical conditions of moisture, dust and oil.

Thus the ignition system units already have been improved and are in use in several 1951 models. With these changes, the increased electrical energy, supplied by the 12-volt system, and demanded by higher compression engines, can be delivered to the spark plug with far less leakage than ever before was possible.

### British Automobile Makers Up Prices

American automobile makers are not the only ones troubled with increased production costs. Two British car manufacturers, Vauxhall and Austin, have been forced to increase prices because of higher basic material costs. Austin raised prices from \$78 to \$280 and also has cut production to four days a week because of a steel shortage. Vauxhall raised prices \$56 on its two models of small passenger cars.

**RECOGNIZED EVERYWHERE!**

**SOLDER SEAL**®

HERE are ten Solder Seal leaders. The world-famous Solder Seal line embraces 23 time-tested, all-season products that have brightened the nation's service stations for more than a generation. This flaming red seal can point the way to more satisfied customers and time & money savings for you, too! Solder Seal will always stand for top quality and better performance.

**RADIATOR SPECIALTY COMPANY • CHARLOTTE, NORTH CAROLINA**  
RADIATOR SPECIALTY COMPANY OF CANADA, LTD., TORONTO





# VAN DORN *Power*

## puts More Profits in Engine Repairs!



**NEW VAN DORN DELUXE SUPER-SERVICE VALVE RE-FACER** is equipped for *complete* job . . . no extras to buy. Permits *traverse* grinding of *any* angle valve face from 0° to 90°. Handles *all* popular stem sizes, head diams. Quick-clamp collet for faster operation. Wet grinding at both wheels.

**VAN DORN VIBRO-CENTRIC\* VALVE SEAT GRINDER** is fast, accurate, foolproof. Requires no complicated adjustment. Concentric grinding insures correct alignment. Vibrating action reduces stone wear, prevents stone loading. Available in kits to fill *every* need!

For  
Power  
Specify

(Div. of Black &  
Decker Mfg. Co.)



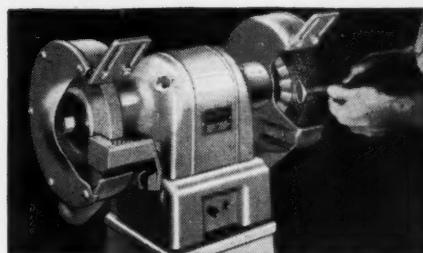
No doubt about it . . . Van Dorn Valve Reconditioning equipment can't be touched when it comes to turning out perfectly matched, gas-tight valve assemblies! And it does the job faster, gets it right the *first* time, to help you make more profits! This page tells you why. Your nearby Van Dorn Distributor will show you how. See him for a wide selection of models and kits to suit your needs. Write for free catalog to: THE VAN DORN ELECTRIC TOOL CO., 727 Joppa Road, Towson 4, Md.



**VAN DORN 1/4" DRILLS** can be equipped with Van Dorn carbon removing brushes and valve guide cleaners for fast removal of carbon from blocks, pistons, valve ports.

### Portable Electric TOOLS

\*Trade Mark  
Reg. U.S.  
Pat. Off.



**VAN DORN BENCH GRINDERS**, equipped with 'Whirlwind' wire wheel brushes, make it easy to remove carbon from valves for tighter, more accurate fits.

## Dealer Clinic . . . . . Continued from Page 39

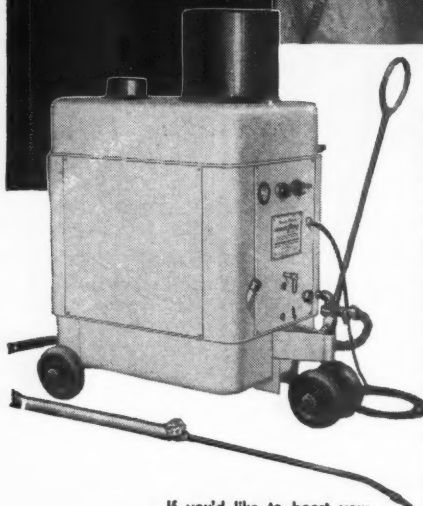
You're going to say your used car department has been losing money lately. That's your fault, not the managers.

You send your trade-in's to the used car department at wholesale prices, the same as the used car dealer up the street pays for them, and your used car and truck department will show a profit. If

your factory wants the new cars to show all the profit and the used car department to show all the loss, fix your statement to suit them. How would you like to run a business that was always in the red? You'd quit, wouldn't you? Put your Used Car Manager in a profitable business and you'll find out how much more total dollars

### You can . . . Boost Your Business or Start a New One With

SERVICE MASTER  
HYPPRESSURE  
**Jenny**  
Combination  
STEAM CLEANER  
and COOLING  
SYSTEM FLUSHER



Here, in one compact, portable unit, are two profit-partners ready to go to work for you the minute you put it on your floor. It cleans motors . . . chassis . . . white sidewall tires . . . prepares for undercoating . . . thaws frozen radiators, and does scores of other jobs that will bring you \$12 or more *extra profit* an hour. It back-flushes radiators and motor blocks in one operation by a combination of heat, chemical action, sudden but safe temperature changes and strong blast to provide the best cooling system cleaning job known to science. *You can do \$300 to \$500 extra business a month from cooling system cleaning alone!*

In the shop, Service Master Hypressure Jenny Combination will save up to 40% of your mechanics' time by cleaning dirty equipment *before* repairs. It cleans tools, pits, lifts, floors, driveways, etc. *10 times faster than you can clean them by hand.*



If you'd like to boost your present business or start up a new one, write for the FREE BOOKLET, "1001 WAYS TO EXTRA PROFITS." No obligation.

**There is a Hypressure Jenny for every Mill,  
Mine, Factory, Farm and Automotive need.**

**HYPRESSURE JENNY DIVISION**  
HOMESTEAD VALVE MANUFACTURING COMPANY

your business will make. With this plan of compensation, you will be able to hire a good Used Car Manager, if you don't already have one. A good wash-out sheet will help your Used Car Manager be better. He and you will know what you are doing. You'll be **working together.**

If you have a body, paint and trim shop, and if you've ever checked it very closely, you know it's a pain in the neck. Keep a separate accounting for your shop. Give your Body-paint Manager a drawing account—then 25 per cent to 50 per cent net gross profit in accordance with your volume. It is necessary to take inventory of paint, trim material and supplies each month. Have your Service Manager take the inventory and once in a while have your accountant help take the inventory. Body and Paint Shops should make a profit.

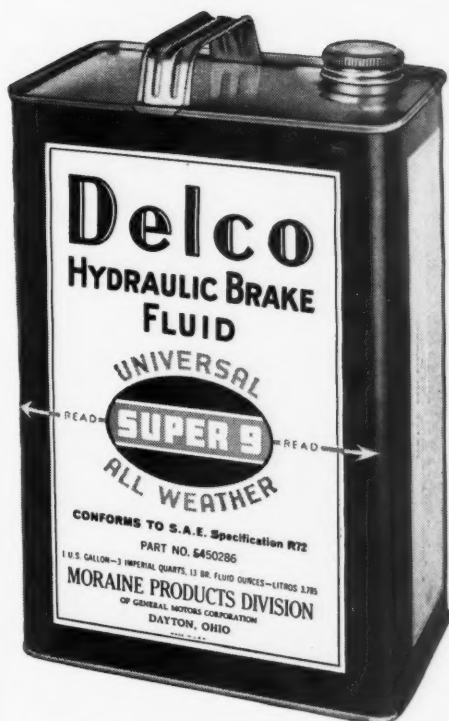
Your Office Manager should get the customary salary for the type and kind of accountant you need for your size business, plus 1 per cent of your net profits. You say why? Well, he'll watch your expenses—insurance, gasoline bills, miscellaneous expense—help your other departments to know more about the revenues and expenses of their departments. He will make you money. Now, if you don't care to take any of these other recommendations seriously, go home and try this last one. Have a chat with your Office Manager, especially if he handles

*(Continued on page 96)*



**"I'll just stick it here—good for  
the flowers!"**

# Sure Stops... Smooth Stops... Safe Stops



## Delco BRAKE FLUID

All brake fluids aren't alike . . . not by a long shot! Both Delco Super 9 and Delco Super 11 brake fluids exceed S.A.E. standards for quality and safety. Both are made to withstand extremes of heat and cold. And both are chemically stable . . . no detrimental effect on metal or rubber. Sell Delco Super 11 heavy-duty fluid to truck, bus and delivery vehicle owners. Sell Delco Super 9 Universal fluid to your other customers. They *all* deserve the best!



## MORaine ENGINE BEARINGS

For satisfied customers, sell Moraine engine bearings. They're quality made . . . durable . . . and fit all G.M. cars and trucks; plus most other popular makes. Available through United Motors distributors.



## MORaine All-Metal GAS FILTERS

Install Moraine gasoline filters that seal out dirt, lint and water—always! They're *all* metal, even the filtering element. Order from your United Motors distributor.



**UNITED MOTORS LINES**  
Available Everywhere Through  
**UNITED MOTORS DISTRIBUTORS**

**MORaine PRODUCTS**  
DIVISION OF  
**GENERAL MOTORS**



## Dealer Clinic . . . . . Continued from Page 94

your credits, and collects your accounts.

By now we have a team of key men working together to manage our business better.

You fellows who run a small enough deal to do all these things yourself, save a lot of salaries and bonus money, but my personal experience is that a small deal is

harder to run than a large departmentalized dealership, so, a small dealer needs particularly good records.

**Mechanics**—generally there are three methods of paying mechanics. 1st, straight salary. 2nd, set amount per hour worked. 3rd, percent of flat rate manual, generally from 40 to 50 per cent.

Most dealers who have tried all three agree that the best method is the 3rd method. That is the percentage of a flat rate charged the customer. I recommend an incentive above any one of the methods. That incentive to be paid to mechanics who produce above the average, based on a given 6 month period of normal operation. I have found that most mechanics can produce an extra \$100.00 per month labor, if you will make it possible for him to get from 1/3 to 1/2 of that extra pay.

**Service Floor Salesmen** should have definite salary, not too high. Plus an incentive on gross sales. I recommend \$10.00 per man per \$1,000.00 gross labor sales above what ever it takes to make your shop break even. I will be pleased to discuss any question on this matter and I realize that generally, large dealers are the only ones that have this problem.

**Parts Salesmen**, whether counter men or outside salesmen should have a salary comparable with the average parts men of your type and volume business, plus an incentive on the net profit of your parts department. It pays to keep records on the individual as to the volume of his sales, number of tickets written and dollars average per ticket.

My experience has been that the best places to start young men in this business are on the Service

(Continued on page 100)



**NEW**  
**Grote**  
**CLEARANCE LAMP**  
**for MORE LIGHT**

225

Smooth surface, self-cleaning lens is held firmly in position with spring wire ring that can be removed to replace bulbs with only a screwdriver. Furnished with ruby or amber lens. Ask for Grote No. 225 Clearance Lamp.

**Send for NEW  
Grote Catalog**

You'll save initial and replacement costs by selecting your lamp and reflector needs from Grote's new complete catalog. Send for your copy.



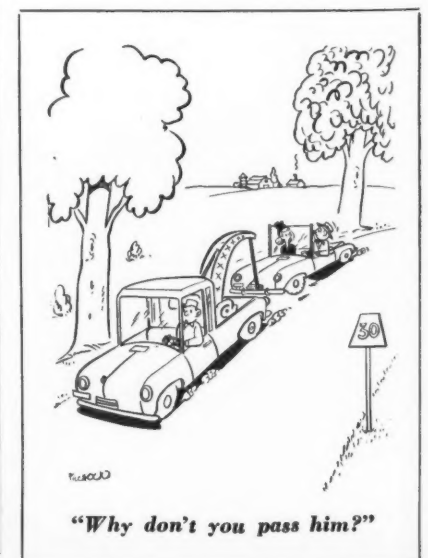
**Always Demand Grote**  
lamps, reflectors and safety lighting devices. Sold by leading jobbers everywhere.

Est. 1901

**THE GROTE MANUFACTURING CO., INC.**  
BELLEVUE, KY.

Opposite Cincinnati

DIRECTION SIGNALS AND SETS	
 212-R	Lamps, switches and complete sets for every commercial vehicle hook-up.
 240	
REFLECTORS	
 O-110	All plastic and metal housed reflectors—color, style and size for your needs.
 O-100	
REAR VIEW	MIRRORS
 610	Clear, non-glare and diminishing mirrors—arms for hinge, panel and fender mounts.



**DEVILBISS**

## Want quality spray equipment?

DeVilbiss engineers have spent years working with vehicle manufacturers to get better, more lasting finishes. The vast majority of manufacturers today use DeVilbiss equipment: Spray Guns, Exhaust Systems, Air Compressors and Hose. We'll gladly pass along to you helpful data on duplicating their methods with DeVilbiss equipment in your shops.



## "THRU THESE PORTALS PASS THE WORLD'S MOST PROFITABLE PAINT JOBS"

**This automobile dealer** is proud of his men and equipment. You can't blame him!

For the refinish jobs that come out of the complete DeVilbiss Paint Shop you see pictured above are not only professional jobs of the highest quality, but they're profitable—both in terms of actual dollars and cents, and because customers recommend his quality work.

**This particular** spray booth is one

of many DeVilbiss types. It handles up to 8 refinish jobs per day and is built with reinforced panel construction, scientifically planned lighting, filtered air intake, proper air movement and many other important features.

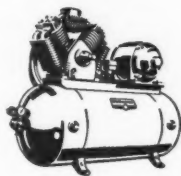
Used with DeVilbiss Spray Guns, Paint Tanks, Air Compressors and Hose, it represents one of the most profitable investments you can make for your business.

**Your nearest** DeVilbiss Branch Office or Jobber has complete data and prices on these and other DeVilbiss products especially designed for use in the automotive industry. Why not call today?

### THE DEVILBISS COMPANY Toledo, Ohio

Windsor, Ontario • London, England  
Santa Clara, Calif.

Branch Offices in Principal Cities



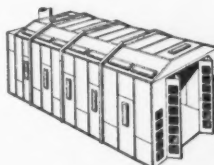
Air Compressors



Hose and Connections



Spray Guns



Spray Booths

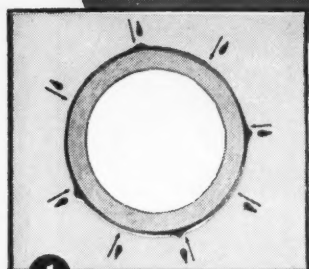
FOR BETTER SERVICE, BUY

# DEVILBISS



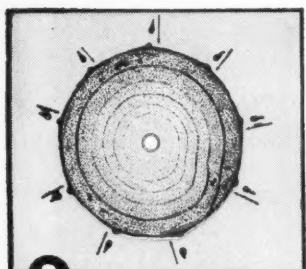
*You've heard that it's better  
... now you can see*

# THE INSIDE



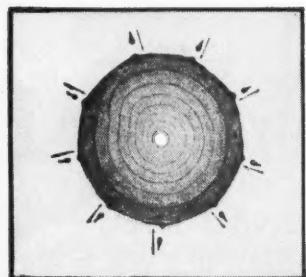
1

**Surface!**

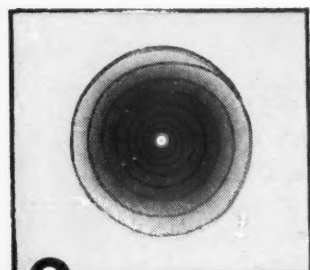


2

**Depth!**

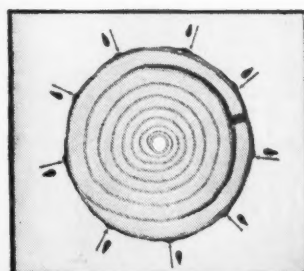


**Multiple Filtration!**



3

**Progressive!**



**Channel-Proof!**



Walker *Laminar* construction is fully covered by U.S. Patent No. 2427733

## Here's How Walker's Patented *Laminar* Construction Works:

**1 Surface Filtration**—When oil enters the Walker cartridge, it immediately encounters double-wrapped wood cellulose dispersion strips . . . which not only provide definite surface type filtration but disperse the oil over the entire surface of the filtering medium.

**2 Depth Filtration**—After passing through the dispersion strips, the oil is next subjected to depth filtration through the basic filtering bed of pure wood cellulose fibres—the density of which is scientifically controlled for a proper balance between "flow" and "particle retention."

**Multiple Filtration**—Walker's patented *Laminar* construction is more than just one layer. As the continuous strip of filtering material is wound around and around the center tube, it forms many successive layers of both dispersion

strips and basic filtering bed . . . a multiple filtration of both surface and depth!

**3 Progressive Filtration**—Even this combination is not yet the full story. As each successive layer is wound around the center tube, compression forces the pattern in the filtering bed to become finer, more compact from outside to center . . . selectively removing smaller and smaller particles of micronic size.

**Channel-Proof**—Here's still another plus! Because of its basic *Laminar* design, every Walker cartridge is absolutely channel-proof. There are no "low resistance" spots . . . no natural channels through which the oil can pass unfiltered. Should an accidental break occur in any single layer, the additional layers will prevent any channeling.



# STORY OF THE ONLY FILTER THAT CLEANS OIL 3 WAYS

Exclusive Filtering Material and Patented *Laminar* Construction  
Combine the Three Basic Essentials of Effective Oil Filtration

● The superior performance of Walker Oil Filter Cartridges begins with an entirely new, chemically pure, physically uniform filtering material—wood cellulose fibre.

This material was selected after years of research because of its remarkable affinity for dirt and crankcase moisture—and because its density could be accurately controlled to permit the proper balance between “flow” and “particle retention.”

The primary filtering matrix of a Walker cartridge is a bed of pure wood cellulose fibres “air laid” by a secret process onto a continuous thin wood cellulose fibre sheet known as the dispersion strip. The dispersion strip is double-wrapped across the top forming a filtering bed of uniform density and structure.

A pre-determined length of this material is then spirally wound around the center tube forming many alternate and multiple layers of the primary filtering bed and intermediate dispersion strips. From this patented construction comes the new name in oil filtration—*Laminar*—meaning laminated, or *in layers*.

This new material, for the first time, made possible a new principle of filtration—*three-dimension filtration*—and an oil filter cartridge of uniform, predictable performance.

## Guarantee

*Walker Oil Filters with Laminar construction are guaranteed against channeling, by-passing or migration of the filtering material.*

WALKER MANUFACTURING COMPANY OF WISCONSIN • RACINE, WISCONSIN

*Makers of Walker Oil Filters, Exhaust Silencers, Jacks and Electric Lifts*

"AMERICA'S FINEST OIL FILTER"

# WALKER OIL FILTERS

WITH PATENTED *Laminar*\* CONSTRUCTION

\*TRADEMARK

TAKES OUT THE DIRT THE ENGINE PUTS IN



## Dealer Clinic . . . . . Continued from Page 96

Floor or the Parts Department.

As to New and Used Car Salesmen there are varied plans too numerous to mention. In my many years experience in small towns and cities, I firmly believe that a salesman should have some sort of a salary or drawing account, and that his total earnings should be based on the profits

turned in by him to the company. That again calls for a wash-out sheet, so you can know just what a salesman is worth to your dealership.

Any incentive plan calls for certain responsibility for you, and also the employee.

Both parties must be sold on the plan and understand it.

Both parties must be honest. You cannot be selfish. You keep the records. Those records must be kept straight, and the information must be available to the employee in so far as his job is concerned.

Good records—good equipment—and the proper incentive plan will make people want to work for you. Your employees will tell others that you know how to pay people.

### Car Builders Blast Excise Tax Boost

Reaction to the government's proposal for an increase in the Federal excise tax on passenger cars to 20 per cent from the current 7 per cent rate has raised a storm of protest in the automotive industry. AMA through its general manager, William J. Cronin, says that automobiles are not a luxury item and should not be taxed as such. He points out that federal excise taxes already total about \$93 on the average new car and if the proposed increase were to be levied it would add an additional \$172 to bring the total to \$265. He attacked the assumption that automobiles are strictly pleasure vehicles as an obsolete theory and cited surveys which showed that more than half of all car use is for necessary purposes. Experience during the last war, he said, showed that between 75 and 100 per cent of defense workers reached their jobs in cars because no other transportation means were available. He added that the problem is even more intensified because of the population move to outlying suburbs during the last decade.

# P & D FUEL PUMPS

**NYLO-PRENE® DIAPHRAGM**  
...pulse of the engine

**YOU CANNOT BUY  
A BETTER QUALITY  
FUEL PUMP**

Nylo-Prene diaphragm  
**FLEXES** but doesn't S-T-R-E-T-C-H  
will not dry out, curl or lose  
flexibility while stored.

*"For mileage  
and smileage,  
put in P. & D."*

Care will save the cars now on the road. In the present period of emergency, it is more important than ever to buy high quality parts. No better S. L. & I. parts can be bought than P. & D.

P & D Manufacturing Company, Inc.  
19-02 Steinway Street, Long Island City 5, N. Y.



# HERE'S A REAL MONEY-MAKER FOR YOU

...and it doesn't cost you a cent!

**MAKE QUICK, EASY SALES!  
CASH IN, AS NEVER BEFORE,  
ON THE HUGE CAR-LIGHTER  
REPLACEMENT MARKET!**

Surveys show 3 out of 5 car owners have Lighters that are burned out, lost or stolen. This compact, colorful counter and window display, complete with action-flasher and new type illumination, costs only 2½ cents per month to operate day and night — yet tests show it rings up record-breaking sales every day in the week!

**WITH EACH *Extra Value* CASCO  
LIGHTER DEAL No. L 500**

CONSISTING OF:

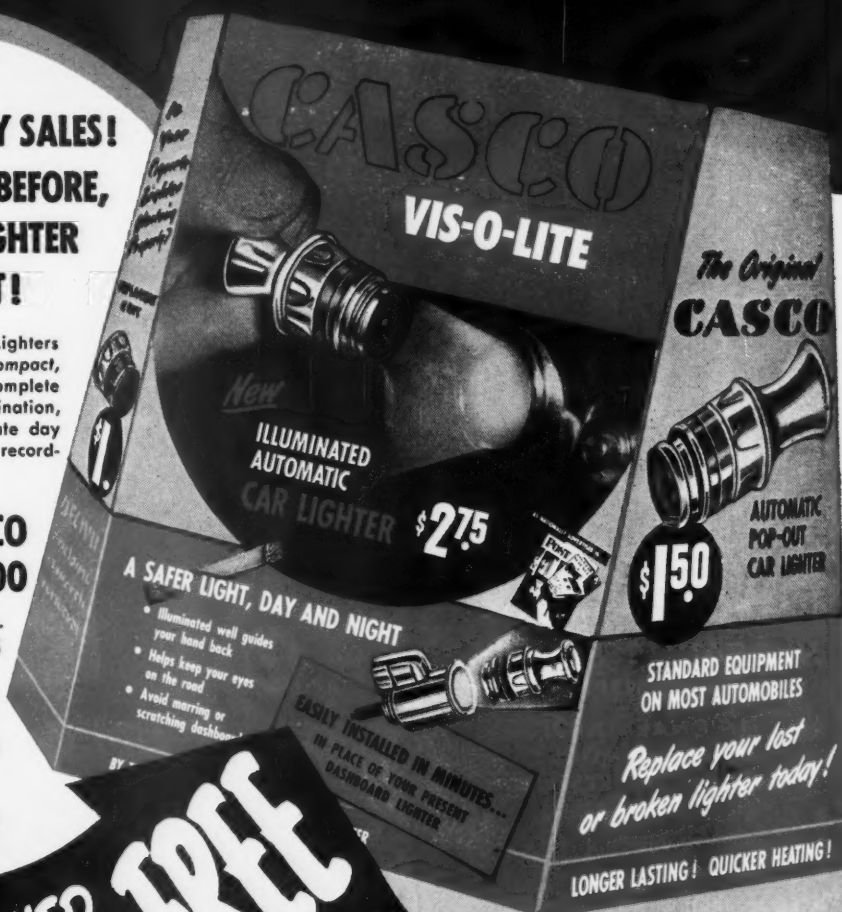
<b>6</b>	<b>VIS-O-LITE ILLUMINATED LIGHTERS</b>	<b>\$2.75</b>
<b>6</b>	<b>CASCO "POP-OUT" REPLACEMENTS</b>	<b>\$1.50</b>
<b>6</b>	<b>CASCO REPLACEMENT HEATING ELEMENTS</b>	<b>\$1.00</b>

**YOU GET**

**THIS *Action Packed* FLASHER *Free*  
ILLUMINATED SALES-MAKER**

Remember, you get the exciting, sales-making display with only a minimum purchase of standard stock merchandise at regular dealer discounts... only 6 of each item... each displayed for quick, easy selling right off the counter. Stock replacements by your wholesaler enable you to make year-round profits! Complete kit of other helpful advertising material supplied with each L500 Display Deal!

For new and unusual automotive accessories  
Casco Products Corporation • Bridgeport 2 Conn.



**ORDER DISPLAY  
DEAL L 500  
THRU YOUR JOBBER**

It consists of

**6 CASCO VIS-O-LITE AUTOMATIC ILLUMINATED CIGARETTE LIGHTERS**

Exclusive Vis-O-Lite illuminated dashboard well guides hand swiftly back, avoids scratched dash, keeps eyes on road. Individually boxed — 6 to display carton.

No. L31 \$2.75 FAIR TRADED

**6 CASCO REPLACEMENT AUTOMATIC "POP-OUT" UNITS**

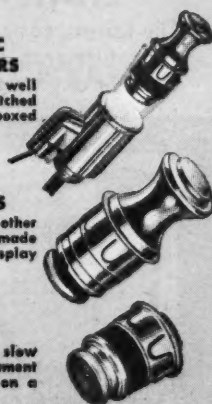
Heavy Chrome knob blends neatly with other accessories on dashboard. Fits all Casco-made lighter dash wells. Packed 6 units to a display card.

No. L33 \$1.50 FAIR TRADED

**6 CASCO REPLACEMENT LIGHTER HEATING ELEMENTS**

Replacement for burned out, weak or slow lighters. Simply screw onto original equipment knob. Packed 6 mounted on a counter display card.

No. L22 \$1.00 FAIR TRADED



**CASCO**

**PLUS YOUR FREE SALES-MAKER DISPLAY**



## New Products . . . . . Continued from Page 66

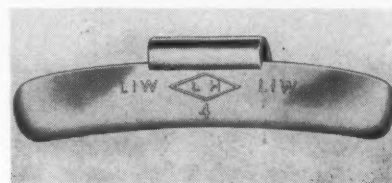
### 218. Motor Oil

The Pure Oil Company has developed a new motor oil known as Purelube, The New Tiolene. The manufacturer states that Purelube, its property carefully controlled in refining, combines high viscosity index and low stable pour point. Purelube is claimed to circulate faster in cold weather

where low engine temperatures prevail and to reduce engine wear during warmup and in city driving. Inhibitors added to this oil are claimed to provide oxidation-resistant qualities, and to reduce bearing corrosion. A detergent is added to give additional engine protection through all temperature operations.

### 219. Wheel Weights

Wheel Weights, Inc., manufacturers of L & H wheel balance weights, has introduced a new series of weights designed for



light truck rims. This series of wheel weights, designated as L & H LIW (light intermediate weight), is designed to be used on all wheel rims between the truck and passenger car classes. They are pressure-cast into two ounce, four ounce, and six ounce sizes.

### 220. Auto Polish

The R. M. Hollingshead Corporation announces a new improved "Venus" auto polish containing "For-Sil", which is said to leave a protective film that is resistant to climatic conditions for an extended period of time. The "Venus" auto polish is a dual purpose product which both cleans and polishes a car finish in one operation. The firm states that despite the long-lasting protection which is afforded by this product, it can be applied and wiped off easily, thus eliminating the double operation of cleaning and waxing.

(Continued on page 106)



## ANNOUNCES

## SENSATIONAL

## POWER-TWIN

## HYDRAULIC PULLER

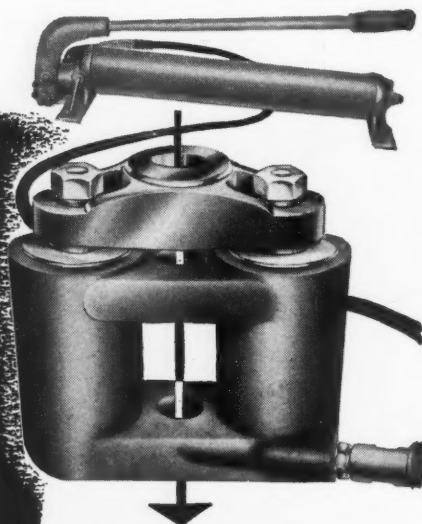
WITH THE CENTER HOLE

REVOLUTIONARY ADDITION

TO THE FAMOUS

OTC PULLING SYSTEM

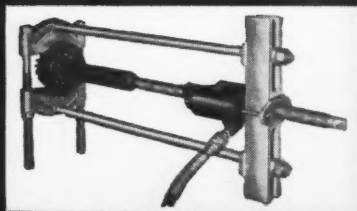
- Fits all OTC pulling units
- Works in any position
- Pushes—Pulls
- Faster than screw operation
- Eliminates torque
- More powerful—friction eliminated
- Easier—just light pump strokes
- Safer—remote control



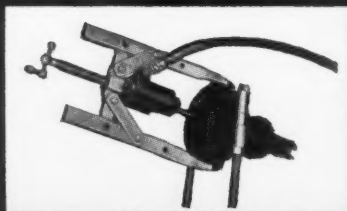
**CENTER HOLE** permits Power-Twin to do jobs no other hydraulic ram can do . . . makes possible application of direct force . . . fast, easy, unlimited adjustment . . . versatile interchange of parts.

### LIGHT - COMPACT - POWERFUL - SAFE

The fastest, easiest working, handiest Push-Puller in history . . . sensational in performance, its time and labor saving ability and low cost make it a must for any shop. See your jobber for complete information or write us.



Spline shaft bearing comes off quickly with Power-Twin and OTC Push-Puller and 952 attachment.



No problem to remove drive gear with OTC Power-Twin and 1003-L Grip-O-Matic.

**OWATONNA TOOL COMPANY**  
361 CEDAR STREET • OWATONNA, MINN.





## Ring Controlled\* Power...

### FOR POSITIVE BUT GENTLE ACTION.

A new standard of ride control is being set by Gabriel's new Hydr-O-Shox! At all speeds . . . at all driving temperatures, Gabriel's revolutionary new ring-controlled piston design successfully absorbs sharp compression and harsh spring rebound. Throughout all riding conditions, Hydr-O-Shox provide firm action . . . not harsh

. . . not soft . . . but positive and smooth. Hydr-O-Shox are your answer to the insistent demand of motorists for better riding and easier car handling. Stock and sell Hydr-O-Shox and customers come back smiling.

**THE GABRIEL COMPANY**  
Cleveland 3, Ohio



\* Patents referred to herein are Gabriel Patent Nos. 2,369,007, 2,394,356, 2,396,227. Other Patents Pending.

# GABRIEL

## HYDR O SHOX

ANTENNAS • THERMOSTATS • COIL SPRINGS • FLEXIBLE TUBING • HELPER SPRINGS • METALUME & "CELASTIC"

# NEW Sealed-Plastic Package Guarantees Their Sealed-in Mileage!

**Factory Fresh**

WHEN  
**YOU BUY 'EM!**



**SEE THE  
DIFFERENCE!**

When you break the seal  
to open the package  
this belt not only looks  
*Factory Fresh*—it is *Factory Fresh*!  
The evidence is there before your  
eyes...



**FEEL THE  
DIFFERENCE!**

This "black beauty" is  
satisfying to the touch.  
It's as full of life as the  
day it was put into Durkee-Atwood's  
exclusive sealed-plastic package...

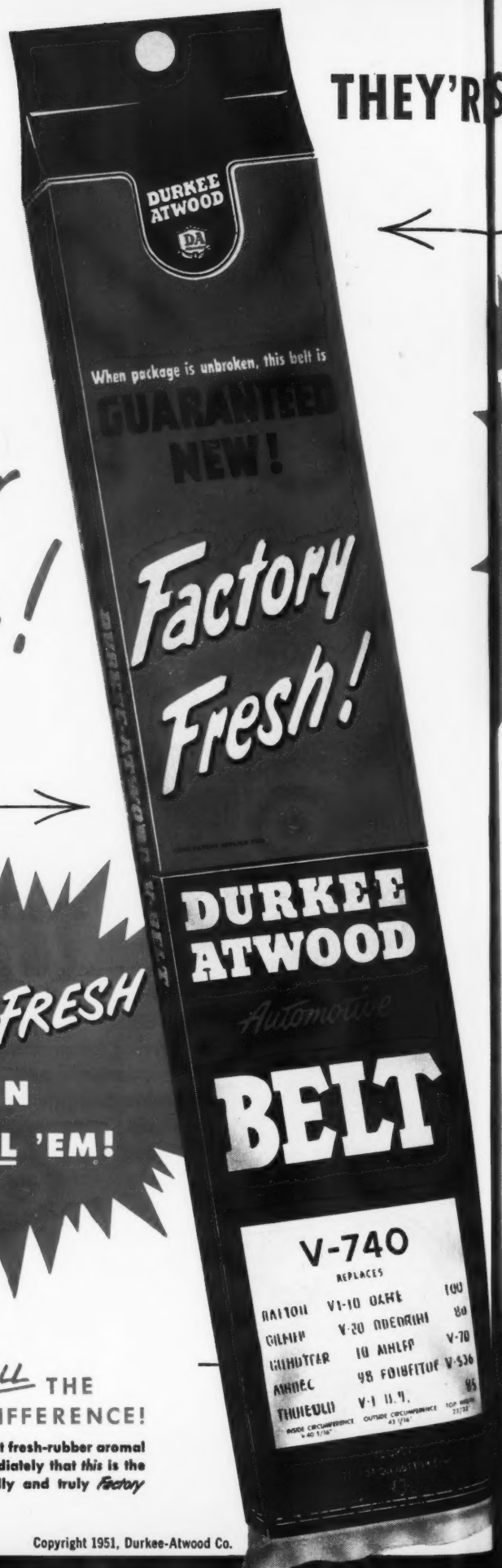
**FACTORY FRESH**

WHEN  
**YOU SELL 'EM!**



**SMELL THE  
DIFFERENCE!**

Get a whiff of that fresh-rubber aroma!  
It tells you immediately that this is the  
V-belt that's really and truly *Factory  
Fresh*...



THEY'RE

Copyright 1951, Durkee-Atwood Co.

**DURKEE-ATWOOD *Factory Fresh* V-BELTS**



SEALED IN PLASTIC TO KEEP THEM *Factory Fresh!*

# DURKEE-ATWOOD FACTORY FRESH V-BELTS

*Here's the V-Belt Program  
you've been waiting for!*

Durkee-Atwood makes history with the most sensational V-belt development you've ever seen—the sealed-plastic package that guarantees Durkee-Atwood V-Belts to be NEW and *Factory Fresh* when the package is opened. Here's the V-belt with real eye-appeal—protected against deterioration—that builds more sales and brings greater profits per sale!

For your convenience each package carries complete replacement information. You get a cross-reference listing of numbers for all popular belts—plus the cars serviced by makes, years, models and car manufacturer's part numbers—you can't make a mistake!

Find out for yourself what the Durkee-Atwood *Factory Fresh* program means to you. Clip and mail the coupon in the lower right-hand corner for the eye-opening details!



*Stock  
the  
Cleanest,  
Freshest  
V-Belts  
in town!*

Clean up with Durkee-Atwood V-Belts—they're GUARANTEED NEW and *Factory Fresh* whenever you break the protecting seal. No other V-belt has this sales magic—no other V-belt can even come close to matching its colorful, attractive display. You get top quality *always* when you stock Durkee-Atwood V-Belts—*Factory Fresh* when you buy 'em—*Factory Fresh* when you sell 'em!

*Get the  
amazing "Factory Fresh"  
story!*

## DURKEE-ATWOOD COMPANY

MINNEAPOLIS 13, MINNESOTA

*Manufacturers of V-Belts, Rubber  
and Chemical Products Since 1910*

Durkee-Atwood Co., Dept. MA4  
215 N. E. 7th St., Minneapolis 13, Minn.

Gentlemen: If it means bigger profits, I'm interested. Without obligation, send me complete information on *Factory Fresh* V-Belts and name and address of your nearest jobber.

NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

# USE THE ONE AND ONLY... MASKING TAPE WITH THESE 5 GREAT FEATURES!



1. Hangs on tight
2. No build-up
3. Strips off clean
4. Takes curves perfectly
5. Non-sweating



WRITE DEPT. 11A

FOR **Free**  
**Booklet**

"MASK 'EM

QUICK AND EASY"

## Permacel 77

INDUSTRIAL TAPE CORPORATION, NEW BRUNSWICK, N. J.

makers of @TEXCEL Cellophane Tape, and a complete line of pressure-sensitive tapes for industry.

## New Products

Continued from Page 102

### 221. Paint Stripper

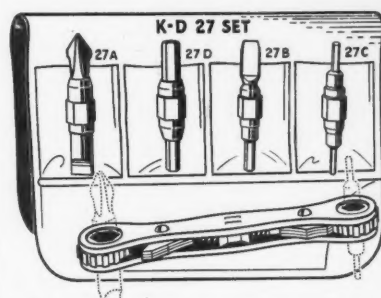
The Pruden Tool Company announces the new Porta-Brasive Blaster, available in three models with varying tank capacities. It is designed to strip paint from car



bodies in a short time; reach inaccessible spots; eliminate grinding and sanding, and to frost etch metal to receive primer without further labor.

### 222. Offset Ratchets

K-D Tool Company announces the addition of No. 27 offset ratchet bit set to its line. The set consists of a double end ratchet wrench, plus four double end bits for the following: one bit for



Fits all 4 types 

Phillips, Reed & Prince screws, sizes 0 to 12; five bits for hex keys, sizes 5/64 inches; screw slots 3/16 inches and 5/16 inches wide. The ratchet wrench has 1/4 inch hex opening on one end, 5/16 inch on the other.

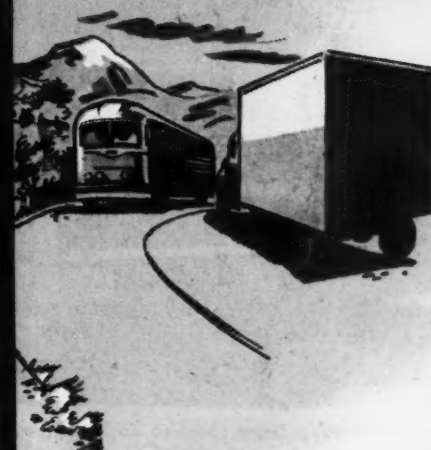
### 223. Flywheel Turner

The Retail Sales Development Div. of Socony-Vacuum Oil Co., Inc., has developed hand tools that

(Continued on page 110)



**KELSEY-HAYES, known for  
Know-How in products for  
peacetime and defense  
production.**



**8 KELSEY-HAYES WHEEL COMPANY PLANTS:**

**4 KELSEY-HAYES PLANTS IN MICHIGAN**

**McKEESPORT, PENNSYLVANIA • LOS ANGELES, CALIFORNIA**

**DAVENPORT, IOWA • WINDSOR, ONTARIO, CANADA**



# SUNOCO ANNOUNCES . . . . . AAA Certifies Engine Cleanliness,

**ROAD TESTED UNDER AAA SUPERVISION**



**ROAD TESTED** from Quebec to Key West and back . . . under the exacting supervision of the famous American Automobile Association...standard popular-make cars were not babied, not pampered. They were driven as you would

drive your own car. **AAA CERTIFIED RESULTS:** Long Mileage, Engine Cleanliness, Long Engine Life. Cars using NEW Sunoco Dynalube were driven over 2,000 miles, on the average, before a drop of oil had to be added.



**SNOW, FREEZING WEATHER** in Canada severely tested the free-flowing and metal-clinging qualities of NEW Sunoco Dynalube...proved how this NEW motor oil gives instant protection at all times—LENGTHENS ENGINE LIFE.



**SUN, BROILING HEAT** in Florida—test cars were driven at maximum speeds, up to 60 miles-per-hour wherever the law allowed—proved that the tough heat-resistant body of NEW Sunoco Dynalube ASSURES LONG MILEAGE.



**DAVE GUNDY, AAA OBSERVER.** After road test AAA certified: Lab findings showed "a complete absence of injurious varnish or sludge"...proof that fully-detergent cleansing action of NEW Sunoco Dynalube KEEPS ENGINES CLEAN

# NEW DYNALUBE MOTOR OIL

## Long Mileage, Long Engine Life

**NEW Premium Heavy-Duty Motor Oil Combines in a Single Oil All the Finest Features of America's Premium Motor Oils... Actually Improves the Condition of Most Engines**

ANY CAR...newest 1951 or earlier model...can now get *greater engine protection* with NEW Sunoco Dynalube, a new motor-conditioning motor oil.

Compare with any other motor oil these features listed on every can of NEW Dynalube:

1. **Tough Heat-Resistant Body** assures *long* motor oil mileage.
2. **Fully Detergent-Dispersant**—NEW Sunoco Dynalube cleans engines and keeps them clean. Road dust and contamination from normal combustion are held in harmless suspension until oil is drained at the regular interval.
3. **Free-Flowing and Metal-Clinging** qualities of NEW Sunoco Dynalube prolong engine life.
4. **Anti-Rust and Anti-Acid**—NEW Sunoco Dynalube

counteracts two of the greatest causes of wear in the vital combustion chamber areas of any engine.

5. **High Film Strength and Ring-Sealing Action**—insure longer-lasting engine efficiency.

**NEW Sunoco Dynalube** is one of the very few oils that meets or exceeds manufacturers' recommendations for all 1951 passenger cars.

### Memo to GAS DEALERS

In gallons per pump, Sunoco gasoline sales nearly double the national average for the industry!... and now with NEW Sunoco Dynalube Motor Oil, even greater sales

records can be established in 1951! There may be a Sunoco dealership available in your area. Write for facts. Sun Oil Company, 1608 Walnut Street, Philadelphia 3, Pa.

**ON SALE ONLY AT SUNOCO STATIONS  
AND SELECTED CAR DEALERS**



NEW SUNOCO DYNALUBE protected the clean piston on right. Fouled piston with stuck rings, at left, resulted from use of inferior motor oils. Dynalube's high film strength and ring-sealing action RETAIN FULL ENGINE POWER.



CLEAN VALVE on right protected by NEW Sunoco Dynalube, compared with corroded valve from engine using ordinary oil, shows how Dynalube fights acid and rust...PREVENTS COSTLY ENGINE REPAIRS.



## New Products . . . . . Continued from Page 106

will position all automatic transmission flywheels. They are available to the industry through Preston Products Co. The Turn-Glide Tool, to position Chevrolet Power Glide flywheels by hand, is said to do the job with ease. The Turn-It Tool is for hand positioning of all other automatic transmission flywheels.

### 224. Tappet Folder

Balkamp, Inc. announces a folder describing their adjustable valve tappets for Ford V-8 and Mercury engines. These Johnson Adjustable Valve Tappets from Balkamp, enable the repairman to adjust the tappet instead of the valve. Because the adjustment is made with the heads in place,

# EDELMANN

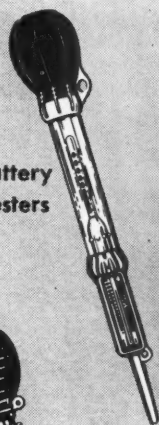
*for 42 years*

**headquarters for the world's finest  
TESTING EQUIPMENT**

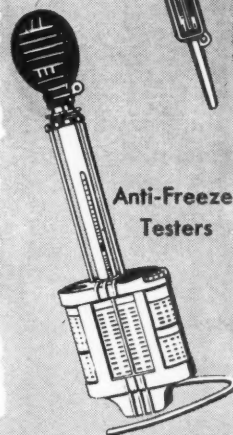
Since 1909, Edelmenn has led the field in the manufacture of battery hydrometers, anti-freeze testers and battery service equipment. Simplicity, precision and accuracy are the keynote of Edelmenn's never-ending program to improve the serviceability of its products. As a result, Edelmenn testing equipment has always set the standard for accuracy and dependability.

**Insist on Edelmenn for all of your testing equipment needs. Contact your Jobber.**

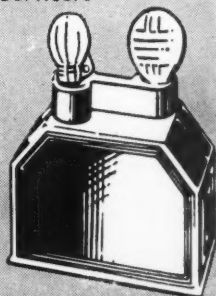
Battery  
Testers



Anti-Freeze  
Testers



Battery  
Servicers



**E. EDELMANN & CO.** 2332 Logan Blvd., Chicago 47, Ill.

World's Leading Manufacturer of Battery and  
Anti-Freeze Testing Instruments



*save hours with-*

**Adjustable  
Valve  
Tappets**

for FORD



**BALKAMP**



errors due to block distortion are eliminated. In addition, a special spanner, which leaves both hands free for adjustment, is furnished with each set of tappets. The tappets are packaged in sets of sixteen, with detailed instructions for installation and adjustment.

### 225. Thread Restorers

Herbrand Tools, Ohio, has announced a new set of 8 sizes of thread restorers. It is claimed that these new dies restore threads quickly on any battered, damaged or rusted bolt, stud or shaft. Just run on and off and thread is restored. Each die is the same size as the matching nut. No special holder or tool is required, as the restorer uses a regular wrench or socket.

(Continued on page 114)



**"Don't get stuffy Mac! You asked for the cheapest paint job."**



# Don't you get messed up in...

# BLACK

## MARTIN-SENOUR BLACKS

*are perfect for the purpose*



Today, tomorrow... the next time there's a call for BLACK for spot repair, panel repair, or an over-all job, you'll find exactly what you need in the Martin-Senour special purpose black lacquers and enamels. Blacks for the best match, the best coverage, the best appearance. Blacks for the adhesion, density, fill, and brilliance for your requirements. Martin-Senour BLACKS have customer satisfaction built right in.

**M-S 6069—Ultra Jet Black Lacquer**—High-quality, dense, black with fine natural lustre for use on all-over custom lacquer jobs or spot repair work on original lacquer finish.

**M-S 6081—Midnight Black Lacquer**—Economical for all-over custom jobs or spot repairing of older cars.

**M-S 6092—Black Lacquer**—Dual purpose, high gloss, non-lifting lacquer. It primes—it seals—it finishes!

**M-S 6100—Hi-Gloss Black Lacquer**—Beautiful for complete refinishing. Easy to use for spot repairing original baked enamel finish.

**M-S 8006—Black (Synthol) Enamel**—Finest black ever developed. For over-all or complete panel jobs. Brilliant, clean-cut lustre.

Your N. A. P. A. Jobber has these Blacks now

## MARTIN-SENOUR

2520 South Quarry Street, Chicago 8, Illinois

*Factory Packaging*... is the only positive control from Factory to Finisher

### There's a Martin-Senour Rubbing Compound specially made for the job too

**M-S 6356—Speedy Rubbing Compound**—High-quality, fast-cutting, easy working. Made to eliminate orange peel effect and produce a lustrous finish.

**M-S 6357—Machine Rubbing Compound**—Beautiful high lustre produced in shortest time. Made for use with any mechanical polishing or buffing equipment. Water soluble.

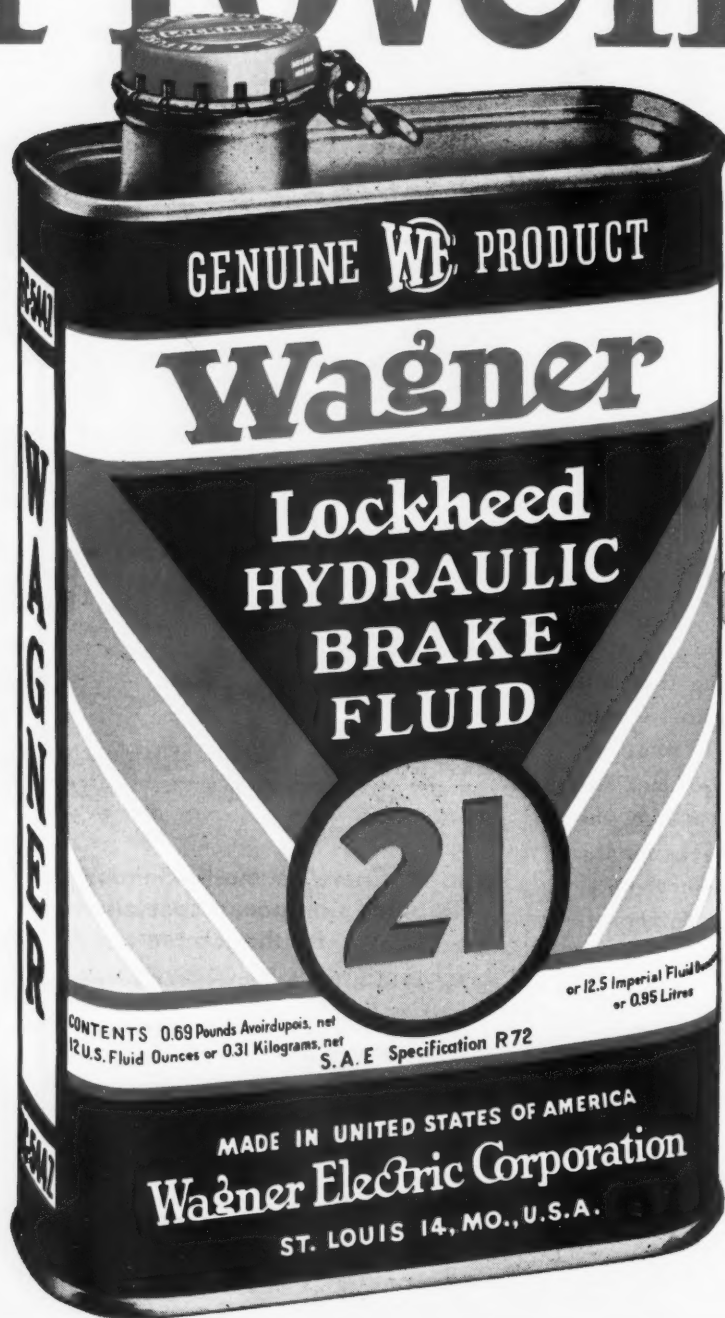
### M-S 6358—Synthol Rubbing Compound

Made for 3 special uses:

1. Polishing spot repair work on factory baked synthetic enamel finishes
2. Rubbing out baked enamel finishes
3. Polishing a recently finished synthetic enamel job.



# Proven and



You can depend on Wagner quality because Wagner products are used as original equipment by automobile, truck and trailer manufacturers.



# Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRoL • CoMaX BRAKE LINING • AIR BRAKES

# accepted...

## WAGNER LOCKHEED BRAKE FLUID

**surpasses S. A. E. standards**

Laboratory tests... road tests... and years upon years of satisfactory performance in service have proven that genuine Wagner Lockheed Brake Fluid has *ALL* the desirable qualities required for all operating conditions in all seasons.

You gain in many ways by always having Wagner Lockheed Brake Fluid available... It is unsurpassed for dependable performance, and mixes with all other approved types of fluid. It's an all-season fluid that

functions under all driving temperatures. It surpasses S. A. E. standards.

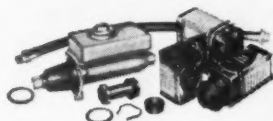
Wagner Lockheed Brake Fluid maintains its chemical characteristics and lubricates the brake system over the operating range of temperature.

Pioneers in the manufacture of hydraulic brakes, Wagner *knows* the qualities a good brake fluid must have—you'll find them all in Wagner Lockheed Brake Fluid.

...and all from **ONE** source..... your Wagner jobber....



**WAGNER CoMaX BRAKE LINING** — offers complete coverage for all your needs... in sets, rolls, blocks, slabs and cut segments. A non-compressible, long-wearing lining of uniform texture.



**WAGNER LOCKHEED HYDRAULIC BRAKE PARTS** — a complete line, covering all makes of cars and trucks, including seldom used, slow-moving parts not easily obtainable elsewhere.

**Wagner Electric Corporation**

6498 Plymouth Ave., St. Louis 14, Mo.

(Branches in Principal Cities and in Canada)

...the best known  
name in brake service

Please send me the latest Bulletins on  
Hydraulic Brake Servicing—HU-17H, HU-197.

NAME \_\_\_\_\_

FIRM NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_



TACHOGRAPH • ELECTRIC MOTORS • TRANSFORMERS

INDUSTRIAL CRANE BRIDGE BRAKES



## New Products . . . . . Continued from Page 110

### 226. Bearing Packages

Replacement Sales Division of Cleveland Graphite Bronze Company announces a new packaging program for its "Monmouth" line of bearings, kingbolt sets and chassis parts.

The new packages are (1) fabricated of durable kraft board; (2) they are glued closed at the

factory to form a smash-resistant carton to insure delivery of the parts in perfect condition; and (3) a perforated tab device allows each box to be opened easily and reclosed securely if necessary. The seal of the box reduces the probability of exposure of the contents, giving greater protection.



Recommended by *Men Who Know!*

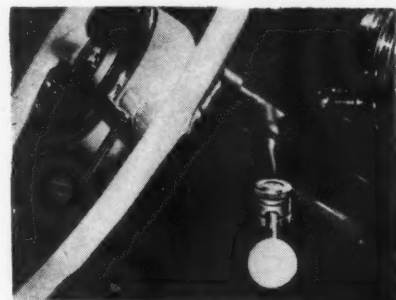
The men who know the importance of quality replacement parts use and recommend G-H Front End Suspension Parts, Tie Rod Ends and King Bolt Sets. Each G-H replacement part is scientifically engineered, precision built of the finest materials to give guaranteed performance. Increased sales, better profits, more satisfied customers are yours with the complete G-H "Safety Parts" line. Ask the G-H man or write us.



**HERSHEY METAL PRODUCTS, INC.**  
Derby, Connecticut

### 227. O.D. Control

Newhouse Manufacturing Industries is marketing the Gane-O-Matic, a unit which gives the driver of an overdrive equipped



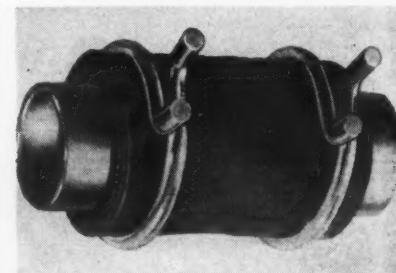
car the option of switching from regular to overdrive and back at any speed in any gear. It allows the use of overdrive all the time. With this unit, the car has six forward speeds, three in regular and three in overdrive range.

### 228. Oil Seals

The McCord Corporation announces a new front wheel oil seal assortment. The assortment of thirty seals will service practically every leading model car on the road, the firm states.

### 229. Hose Clamps

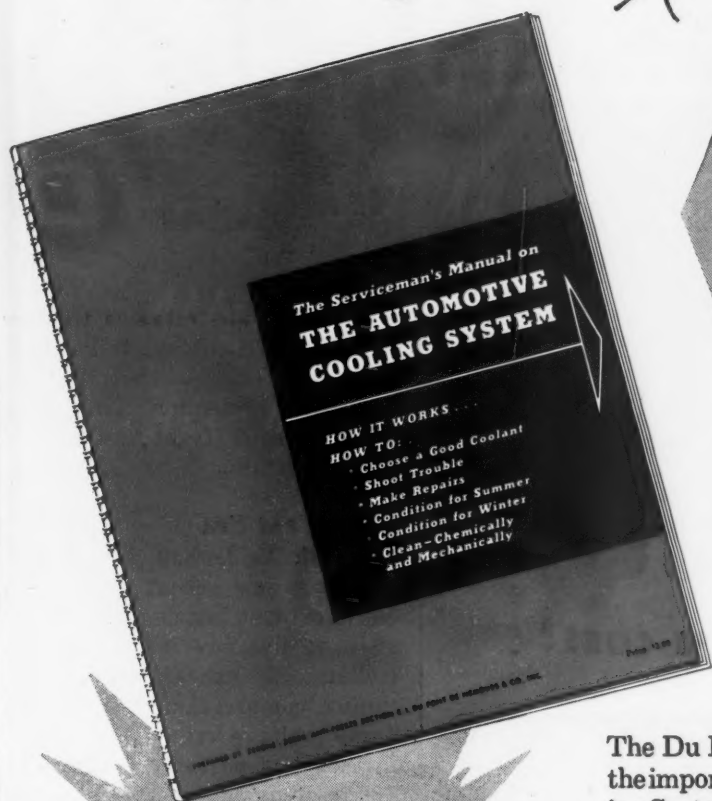
Corbin Hose Clamp Division of the American Hardware Corporation is manufacturing a self-tightening hose clamp, whose spring action also makes it self adjusting to temperature changes. The clamp is installed by squeezing the ends with pliers, slipping the clamp over the connection and releasing. It is said to exert uniform pressure at every circumference point, allowing for irregularities in hose or pipe up to 1/16 inch. These one-piece self-tightening clamps are made in sizes



to fit connections from 3/8 inch O.D. to 2 5/8 inch O.D. The manufacturers state that they can be used with rubber, fabric or plastic hose conveying gas or liquid.

(Continued on page 116)

# Plenty of profits <sup>for you</sup> under the hood



Get them out with this  
**Du Pont Cooling System  
Service Manual**

Helps you sell more of all four  
... cooling system service,  
parts, chemicals, and anti-freeze

**More than 20,000  
dealers already  
have joined the  
Du Pont Cooling System  
Specialists Program.  
Ask your jobber  
about it today.**

Dealers who use the Du Pont Manual receive this special emblem, which is featured in "Zerone"-"Zerex" advertising.



The Du Pont Cooling System Manual is just one of the important features of the "Zerone"-"Zerex" Cooling System Specialists Program—and what a feature it is! With it, you'll be able to spot your customers' cooling system troubles faster—speed up repairs—and sell cooling system service the year 'round at a good profit to you. Big diagrams, and simple, easy-to-understand text explain the entire cooling system in a way that even your greenest employee can understand. That makes it an excellent training manual, too.

With car prices where they are—and new cars getting scarcer—your customers are open to suggestions on ways to make their cars last. Cooling system service is one way—and a profitable one for you!



**BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY**

**"ZERONE"—\$1.50 A GAL.** Every year more motorists buy "Zerone"\* anti-freeze than any other brand. Order this fast seller now, to make sure to get your share of the growing market for standard-priced anti-freeze.



**"ZEREX"—\$3.75 A GAL.** "Zerex"\* anti-rust anti-freeze is the new favorite among premium-priced anti-freezes. When you stock both "Zerone" and "Zerex," you're in a position to meet the needs of all your customers.

\*REG. U. S. PAT. OFF.

## New Products . . . . . Continued from Page 114

### 230. Fuel Checker

Rocklen, Inc., has developed a product to check entire fuel systems and the mileage of any internal combustion engine.

The unit can be placed adjacent to the vehicle operator so he can watch its performance. Its two flexible hoses are connected to the carburetor and gas line. Fuel can

be stored in or directed in or out of its container by means of the four-way control valve located in the bottom of the checker.

When hooked up, the fuel checker tests fuel pump flow and pressure, mileage, leaky or plugged gas lines, carburetor needle and seat, fuel level, fuel pump diaphragm, and so forth.

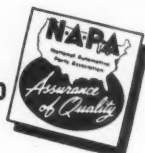


**53% Extra  
Capacity**  
—at no extra cost!

**BRIGGS**  
SHOCK ABSORBERS

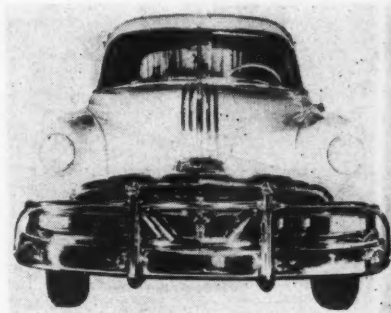
Winter-ruined roads and streets mean more shock absorber sales—everywhere. And the shock to sell is Briggs. Briggs Shocks are built with 53% extra recoil capacity. They soak up road shock like an overstuffed cushion; they last longer, with less danger of blowouts and leaking. Ask your NAPA Jobber for the full facts on Briggs Shock Absorbers—53% oversize, with exclusive O-Ring Seal for uniform performance on any road, in any weather.

THE BRIGGS SHOCK ABSORBER COMPANY • CLEVELAND 3, OHIO  
1523 East 45th Street • Division of The Gabriel Company



### 231. Grille Guards

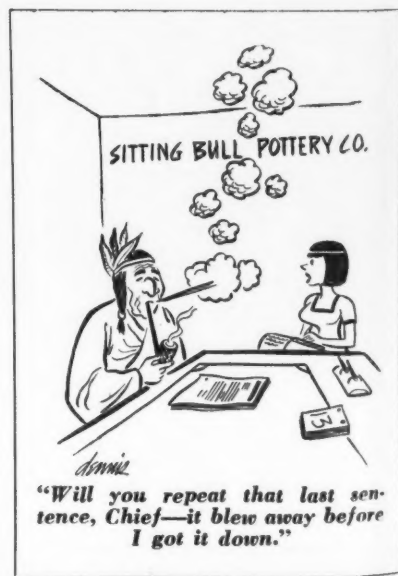
Erie Mfg. Div., Pressed Steel Car Company, Inc., announces the 1951 line of fender-to-fender Erie



Kargards. Illustrated is the new Erie Kargard custom, tailored for the front of the 1951 Pontiac. Complete protection is claimed for the entire front and rear of the automobile.

### 232. Test Set

Joseph Weidenhoff, Inc., is marketing a new set of engine and electrical test instruments. It consists of five precision units for making 25 checks on battery, timing, compression, vacuum, fuel pump, voltage regulators, and so forth. It is portably mounted on a black panel and known as the Bowser-Weidenhoff Analysis Set. Each unit is readily detachable from panel and no outside current connection is necessary. Test leads are furnished with the A. V. R. Circuit Tester. Included with the set are illustrated instruction manuals and tune-up wall chart.





# OLDSMOBILE

*LAUNCHES AN*

*ALL-TIME GREAT...*

*ALL-NEW "ROCKET"*

*SUPER*



Above: Oldsmobile Super "88" De Luxe 4-Door Sedan. Equipment, accessories, and trim illustrated are subject to change without notice.

A GENERAL MOTORS VALUE

Every major feature is new—all new—in Oldsmobile's all-time great Super "88"! Brand new gas-saving "Rocket" Engine! Brilliant new Body by Fisher! Superb new styling inside and out! More room, more comfort, more view! A completely new chassis for a smoother "Rocket Ride"! New Oldsmobile Hydra-Matic Drive! That's why the Super "88" is an all-time great for value. That's why Oldsmobile dealers know—It's Smart to Be with Olds!

# "As easy as 1-2-3"

You'll service more cars... satisfy more customers with

## HARLEY-DAVIDSON SERVI-CARS

Out for a  
pick-up!

1.

Back with  
the business!

2.

Home to  
the customer!

3.



Their Servi-Car is "always on the go" at East Side Chevrolet Co., Milwaukee, Wis.

Today, more than ever, you need this time-saving good-will builder. It helps you keep work rolling on schedule, pleases customers with prompt service, brings in new business, advertises you all over town. Thousands of car dealers are Servi-Car boosters. They'll tell you it's indispensable for rendering profitable, modern service. For complete information see your Harley-Davidson dealer, or write

HARLEY-DAVIDSON MOTOR CO. • Dept. MA, Milwaukee 1, Wis.

# SERVI-CAR

SERVICE SELLS MORE SERVICE

### NPA Declares More Cuts for Auto Makers

Notice has been given by the National Production Authority that more cuts in non-defense use of basic metals are to be imposed on the automobile and other durable goods industries over coming months. Order were being drafted for issuance around March 1, which would require these industries to limit such use of steel during the second quarter of 1951 to 80 per cent of their base period consumption. Officials said it was entirely possible that another 10 per cent cutback might have to be applied during the third quarter.

Impact of this 20 per cent cutback will be greater than appears at first glance, since the cut will be applied to the steel left over after defense demands takes an estimated 5-million ton bite out of the probable 18,000,000 ton production of finished steel during the quarter. On this basis, the overall civilian cutback would amount to roughly about 2,500,000 tons with the automobile industry's share reduced by roughly 700,000 tons.

This undoubtedly means a further reduction in output of cars and trucks, but opinion varies as to the actual extent because of the way the cuts are to be applied. The NPA has been cool to requests by the motor truck industry for exemption in order to turn out a maximum number of vehicles before military orders begin taking the lion's share. But officials of NPA do not look for a substantial cut in unit output of passenger cars because the steel cutback is tonnage-wise by industry.





## You could have saved this kid's life!

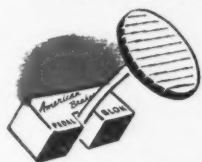
This driver couldn't stop, his brakes were bad. Last week he was in for a minor repair. You said, "Anything else?" He said, "No" and drove out . . .

What if you'd said, "Let me give your car a Minute Brake Check." At least you'd have called his attention to his brakes. More than likely you'd have found the trouble, fixed it, and saved this kid's life.

Faulty brakes cause more accidents, kill more people, than any other mechanical defect. That's why American Brakeblok wants to send you a Pedal Blok, at no charge. It helps you find those cars that need brake work . . . you

make the repair . . . safeguard your customers from an accident . . . and make a profit.

Fill in the coupon and mail it today!



Accept this PEDAL BLOK with our compliments.

No cost, no obligation!

**FILL OUT AND MAIL . . . NOW!**

(Use the margin of the page, if you wish)

American Brakeblok Div.  
Dept. B, 4612 Merritt Ave.  
Detroit 9, Mich.

Rush me your Free Pedal Blok, without obligation.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

Ordered by \_\_\_\_\_



**AMERICAN BRAKEBLOK DIVISION**  
DETROIT 9, MICHIGAN



television and outdoor poster and other advertising.

Service dealers are urged by the Inter-Industry Highway Safety Committee to cooperate in the following manner:

1. Order and display official identification materials during May. More information on the material available can be ob-

tained by writing Inter-Industry Highway Safety Committee, 1026 Seventeenth St., N.W., Washington 6, D. C.

2. Feature "safety specials" during the month. Urge customers to have their cars "Serviced for Safety" at regular intervals.

3. Tie-in with the national program with local newspaper,

radio, television and outdoor poster advertising.

4. Utilize direct mail programs to reach customers.

5. Obtain the cooperation of the local police departments in support of the program and in setting up voluntary vehicle inspection lanes at specific times during the program.

6. With the support of public officials, organize a parade of old cars, carrying appropriate signs and displays. After the parade and special ceremonies, the cars should be destroyed by burning or junking. In staging such a demonstration, it should be pointed out that these cars, or any parts of them, should be so destroyed they cannot be used again.

7. In states requiring periodic motor vehicle inspection by law, this program can serve to supplement the official program by bringing to the attention of the public the need for maintaining their cars in safe operating condition at all times.

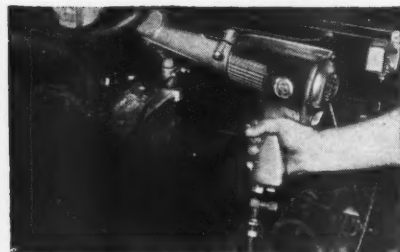
8. Complete and forward promptly on June 1, to Inter-Industry Highway Safety Committee office, the self-addressed business reply card covering the number of vehicles checked and items in need of safety maintenance. (A sample business reply card is included with each kit of display material referred to in item No. 1.)

9. State and local automobile dealer association and local dealer  
(Continued on page 122)

Note short, compact design of wrenches when readily detachable angle heads are removed.



## 3 major advantages



Only complete line having detachable angle heads for close-quarter work.



Tightening U-bolts is a matter of seconds with CP-770—good preventive maintenance.

## of CP AIR IMPACT WRENCHES

- Controllable power assures running nuts and cap screws to correct, uniform tightness.
- Angle heads—detachable—make it easy to reach awkwardly located nuts and bolts.
- These advantages plus the powerful impact action of these wrenches, means big savings in hours—and dollars.

Capacities: CP-730 to 1/2" bolt size; CP-750 to 3/8" bolt size; CP-770 to 1" bolt size—all with detachable angle heads.

For heavier jobs on trucks and trailers, CP-365, capacity to 1 1/4" bolt size, is available in straight or angle head models.



AUTOMOTIVE SERVICE EQUIPMENT • FENDER IRONS • ELECTRIC TOOLS  
AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEUMATIC PUMPS





Only Fram offers you  
**COMPLETE ENGINE PROTECTION**  
 Now, sell famous Fram Filters to guard engines at every vital point. Seal out the deadly abrasives that rob miles from engine life... remove harmful corrosives formed internally... seal in engine power, performance and life.

*Sell the new profit-booster in this great line*

## NEW FRAM Radiator & Water Cleaner

**At last,** here's complete cooling system protection. It's the fast-selling answer to a major automotive problem. The sensational new Fram Radiator & Water Cleaner guards cooling systems all three ways.

**Inhibits** formation of rust and corrosion. *Softens* the water to stop scale deposits. *Filters* out all harmful particles. And, it's harmless to antifreeze or other radiator chemicals!

**Two models** fit all cars, trucks and buses. Installation is easy as A, B, C. Uses standard heater hose. All other parts and fittings supplied in complete ready-to-install kit. Low-cost cartridge is easily changed for fast replacement profits.

**Unconditionally Guaranteed** as are all famous Fram Filters. Cash in now with the sensational new Fram Radiator & Water Cleaner. See your Distributor and get your share of profits from this vast, new market.

FRAM CORPORATION, Providence 16, R. I.

In Canada: J. C. Adams Co., Ltd., Toronto, Ontario.

### BUILDING CUSTOMERS FOR YOU...

Powerful Fram ads on the New Fram Radiator & Water Cleaner will appear in these top consumer magazines...

**LIFE**  
**POST**

**Collier's**

**POPULAR SCIENCE**

**Country Gentleman**

**FRAM**  
 OIL • AIR • FUEL • WATER  
**FILTERS**

# Safety . . . . . Continued from Page 120

and service groups are requested to keep the Inter-Industry Committee advised of plans and progress of the program for national publicity purposes.

That's the program. It's a good one but it needs one additional thing . . . your ardent and active cooperation. The best minds can work out the finest program for

safer motor vehicles but without the working support of the men who sell safety for safety's sake—much of it is wasted effort.

Cars and trucks that are "serviced for safety" are sources of good will and profit for MOTOR AGE readers. But, we're not stressing the money you can make—we submit that it's the serviceman's re-

sponsibility to his customer to correct every defect in the safe operation of his car or truck. You can do this:

1. By pointing out the weaknesses in each motor vehicle promptly and whether the customer has asked for such service or not.

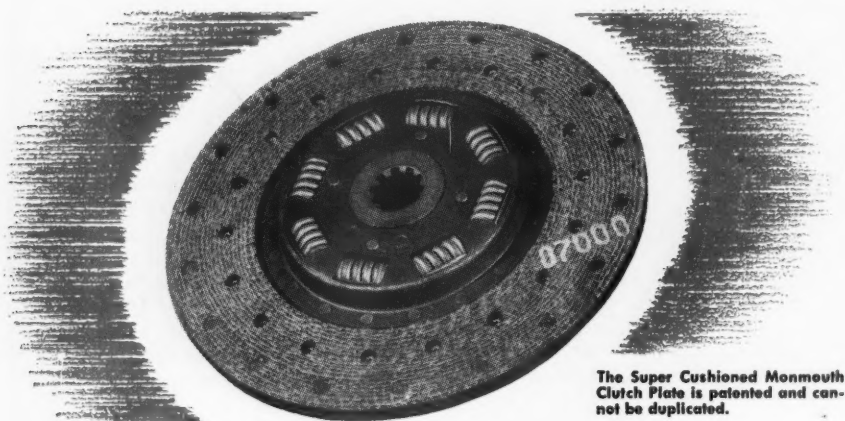
2. By following strictly every requirement of the safety inspection law in states where such laws exist.

3. By diving into the whole subject of highway safety and participating in local highway safety activities.

There's no better time to start than now. Get ready for the Check Cars—Check Accidents in May. And then, keep going

## Car Costs Less Than 50 Cents Per Pound!

Forrest H. Kane, a Pontiac Motor Division Executive Engineer, has printed an interesting little comparison of the cost per pound of several common items. An automobile, which has 15,000 parts and weighs 3209 pounds, sells for 48 cents per pound. A grand piano with only 10,000 parts weighs 780 pounds and sells for \$4.60 a pound. An automatic washer with 700 parts weighs 295 pounds and sells for \$1.02 per pound. An office typewriter with 2100 parts weighs 36 pounds and sells for \$4.17 per pound. By a coincidence not at all odd, the first car which came to mind for Mr. Kane to choose, was the Pontiac Silver Streak, six cylinder business coupe. It was, however, a good average selection.



The Super Cushioned Monmouth Clutch Plate is patented and cannot be duplicated.

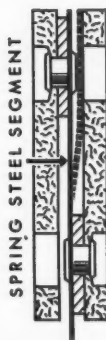
## Super Cushioned to the requirements of Master Automotive Mechanics

**T**HE Monmouth Clutch Plate is super cushioned to deliver more miles of happy driving than any other design or construction. It cushions the initial engagement through segments of the finest spring steel obtainable. Its tremendously strong yet simple construction (cross section at right) is precision engineered for

the tough service required of replacement plates.

It is typical in quality and engineered performance of the complete line of Monmouth Clutch Parts. Available coast to coast through N.A.P.A. Jobbers.

Write us for descriptive folder on the Monmouth Super Cushioned Clutch Plate.



Cross section diagram showing Monmouth Super Cushioned Clutch Plate in released position. Dotted line indicates position of spring steel segment when fully engaged.



All Monmouth Replacement Parts are engineered and precision made to safeguard the reputation of the master automotive mechanics and to insure user safety and satisfaction.

**THE CLEVELAND GRAPHITE BRONZE CO.**

REPLACEMENT SALES DIVISION  
6545 Carnegie Ave. • Cleveland 3, Ohio



"Goodness! is it time to start back to work already!"





## Here's Why Over 9,000 Dealers Sell

### ① MOST PROFITABLE LINE

Combines highest volume of sales with generous margin of profit.

### ② MOST "ASKED FOR" BRAND

Seat cover buyers ask for Howard Zink Seat Covers because of national advertising.

### ③ MOST PATTERNS AND MATERIALS

The widest range of materials and constructions are available.

### ④ MOST FOR THE MONEY

Howard Zink Covers install easier, fit better and have greater appearance appeal.

Our Representative Will Tell You The Full Story.  
Write Us And We Will Have Him Call On You.

# Howard Zink

## AUTO SEAT COVERS

as advertised in . . .



#### PLASTIC FABRICS

Beautiful colors in both bold and neat patterns are available in woven saran plastic fabric.

#### RAYON CLOTHS

Their lustrous satin-like beauty is offered in three most wanted solid colors: maroon, blue and green.

#### PLASTIC COATED FIBRE FABRICS

Smooth, dirt-resisting, easily cleaned fabrics in colorful patterns.

# Howard Zink

*World's largest manufacturer of auto seat covers—*

THE HOWARD ZINK CORPORATION • Fremont, Ohio • Passaic, N.J. • Long Beach, Calif. • Charleston, Miss.

## NADA Opposes Increase In Federal Auto Taxes

Administration proposals to double the present federal gasoline tax and to sharply increase present excises on new cars is stoutly opposed and criticized by the National Automobile Dealers Association. If the excise increase is granted, about 33 pct or a third of new car cost would consist of federal, state, and local

taxes, the House Ways and Means committee was told by Charles C. Freed, chairman of the NADA Public Affairs committee.

This is not only an unfair share of the tax burden, Freed told the group, but it would result in placing cars out of the reach of a majority of defense workers who are dependent upon automobile transportation. He cited figures to show that 63 pct of the average car owner's trips is for the pur-

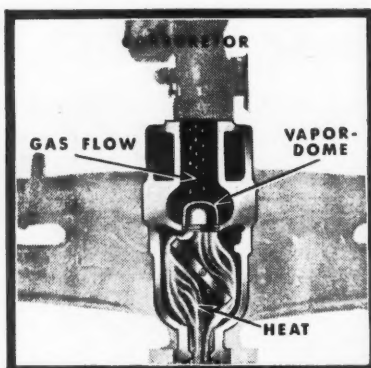
pose of making a living, and that in many areas workers in mines and defense plants must rely solely on private transportation.

Moreover, he pointed out, there are now three times as many of these cars averaging 10 yrs of age or more being used than in 1941 (average total mileage 79,000 miles). If the Treasury proposal goes through, it would add up to \$200 to the cost of cars bought by the average worker, bringing the total cost to \$2,100-\$2,200. This (under present credit regulations) would require a down payment of \$700 or more, leaving monthly payments at more than \$100 a month—obviously out of reach of the pocketbook of the average worker (Department of Labor estimates average earnings at less than \$300 a month.)

Equally to the point, the committee was told, is the additional financial burden which would be imposed on the nation's 27,000 new car dealers. The average sales per agency is about 92 cars per year. This would mean that the dealers would have to finance the new excise tax until the cars are sold in addition to other operating costs.

## Are You Playing This Tune On Your Cash Register?

*New Vapor-Dome Profits*



Quick returns from sales of the new Vapor-Dome will make sweet music in the till!

Dealers everywhere are "joining in the chorus" of praise for this new, scientific, engineered automotive device that:

- ♥ Saves up to 10% or more on gasoline by actual test
- ◆ Gives quicker warm-up and pickup through proper vaporization of gasoline
- ♣ Reduces carbon formations and crankcase dilution
- ♠ Eliminates stalling and choking

For YOU, Mr. Dealer, it means the melodious sound of added sales and profits in the cash register!

YOU share in the benefits of—national advertising and other Selling Aids furnished by the manufacturers through your Jobber.

YOU reap the benefits of—a New Customer Service—and more and more satisfied customers.



Get on the band wagon! See your Jobber today!



**Manifold hot spot corporation**

Sales Office:  
612 N. Michigan Ave.  
Chicago 11, Illinois

Dept. MA-4

Export Office:  
38 S. Dearborn St.  
Chicago 3, Illinois, U. S. A.

## Packard Announces Two New Models

Packard announces two new additions to their 1951 line—the "Mayfair," a new sports hard-top, and the "Convertible."

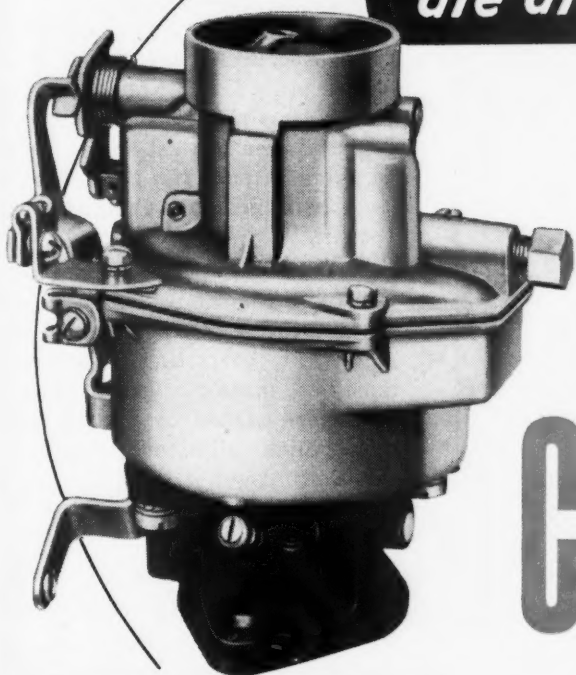
The two new cars, mounted on a 122-inch wheelbase, incorporate the vertically-barred grille of the larger "300" and Patrician "400". Another exterior styling note, repeated only on the "Mayfair" and "Convertible," is four "jet louvers" along the rear fenders.

Packard's 1951 interior theme is carried out in both cars in red and ivory, and black and ivory, with seating in genuine top-grain leather and striped woven plastic fabric. In the "Mayfair," headlining is in harmonizing two-tone and the "convertible effect" of its interior is emphasized by three stainless steel crossbows. Tan or black top is available in the convertible.

Hydraulic top control is standard equipment in the convertible, while hydraulic seat and window controls are available in both the Mayfair and convertible at extra cost.

*Here's the BIG market...*

**9,000,000 CHEVROLETS**  
*are driven by prospects for*



# ROCHESTER CARBURETORS

**ROCHESTER CARBURETORS NOW  
ORIGINAL EQUIPMENT ON  
THESE GREAT CARS**

**CHEVROLET**

1950—1951 models

**OLDSMOBILE**

1949—50—51 models

**PONTIAC "6"**

1951 models

**Get Your Rochester Carburetor Display Now**

Just order a small assortment of Rochester Carburetors now and you'll also receive an attractive display and window streamer to sell Rochester Carburetors for you. Call your distributor, or write us, today.

**And you can serve this tremendous market by stocking  
just two models of the great Rochester Carburetor!**

Why fight for your share of new carburetor sales when it's so *easy* to sell the famous Rochester Carburetor? The 9,000,000 owners of Chevrolets built between 1932 and 1949 can now have the Rochester Carburetor installed. It's the same carburetor—providing the same performance—that is part and parcel of the 1951 Chevrolet! And, naturally, owners of older Chevrolets want 1951 performance when they have a new carburetor installed. Thus, to sell Rochester Carburetors, just display them . . . tell your customers about them . . . and the sales are yours!

**Look at the Advantages Rochester Carburetors Offer**

- No fuel loss on any incline.
- Smooth acceleration on turns—at any speed.
- Easier starting in hot weather.
- Continuous fuel flow.
- Power mixture readily available.
- Acceleration—hot or cold.
- No metering adjustments.
- All metering parts in cover.
- Permanent idle tube.

**ROCHESTER CARBURETORS—A UNITED MOTORS LINE**

Available everywhere through  
**UNITED MOTORS DISTRIBUTORS**

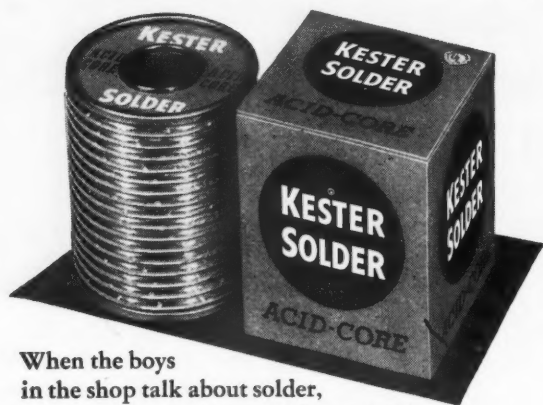


**ROCHESTER PRODUCTS**

**DIVISION OF GENERAL MOTORS CORPORATION, ROCHESTER, NEW YORK**



# Kester Solder



When the boys  
in the shop talk about solder,  
they talk about Kester Acid-Core Solder;  
the old reliable product now in a new package.

## Easier to Use

Mechanics know that using Kester makes any soldering job easier. Kester contains the finest grades of tin and lead commercially available. The fluxes are chemically and scientifically correct.

## Faster

Kester is faster to use. Mechanics prefer it and are more satisfied when using it. The work is speeded up and output is increased.

### Kester Solder Company

4201 Wrightwood Ave., Chicago 39  
Newark, N. J. • Brantford, Canada

**KESTER  
SOLDER**



The Mechanics Standard since 1899

## Service Suggestions

Continued from Page 56

that called for by the markings on pinion and differential carrier) behind the rear bearing outer race, which will restore correct tooth contact.

The test should always be made with gears loaded. While applying load (using the left hand as a brake on the flange cover) rock the differential back and forth several times with a  $\frac{3}{4}$  in. OD bar or pipe in the pinion cross shaft holes in the differential case. A test should never be made without the gears loaded, as it will give an unsatisfactory pattern.

When any test shows any incorrect tooth contact between the pinion and the red lead teeth of the ring gear, correcting adjustment must be made to exact factory prescribed standards for backlash and pinion adjustment, and so forth.

### Cadillac Hydra-Matic Transmission Differences

The Hydra-Matic Transmission in Cadillac passenger cars and the one in the commercial chassis are not alike. While they are alike in essential operation, construction, and in principle, there are certain parts that are not interchangeable in these two transmissions.

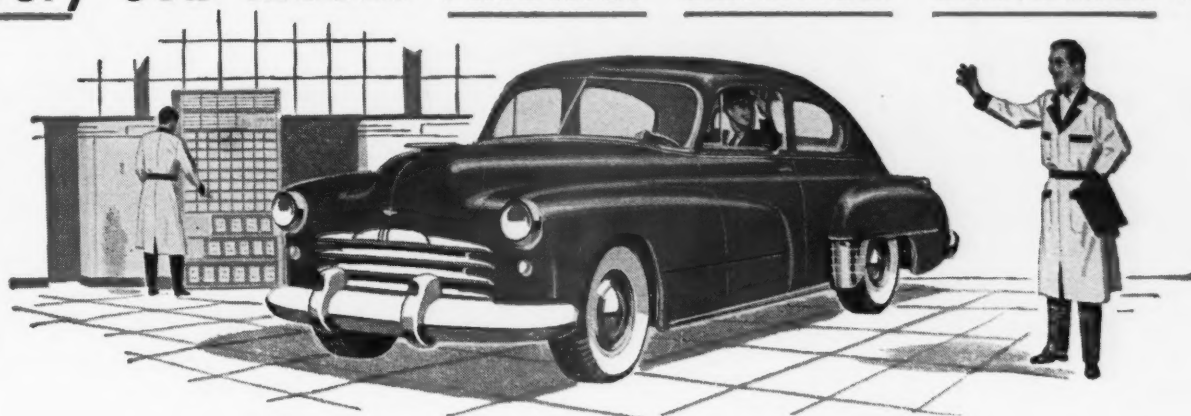
For instance, the valve body on the commercial chassis does not

(Continued on page 128)



"I don't think my husband has much faith in that meter — he always disconnects it after you've gone."

# When You Sell Stromberg Carburetors Every Job means Another Satisfied Customer...



**Stromberg**  
CARBURETORS  
*Stand for*  
**Quality!**



Stromberg\* Carburetors have long been famous for better performance, and more miles per gallon. It is also a fact, that Stromberg Carburetors last longer. These qualities are basically the result of exclusive engineering features, scientific design and mechanical simplicity. Therefore, when you sell a Stromberg Carburetor, you realize much more than the immediate profit on the sale; for Stromberg Carburetors go right on building good business through good will as long as they are in service.

\*REG. U. S. PAT. OFF.

**Bendix SOUTH BEND**

PRODUCTS DIVISION INDIANA  
Standard Equipment Sales: Elmira, N. Y.

...WITH

Easier Starting

Smoother Power

More Miles per Dollar!

**YOU SELL**

**PREMIUM FEATURES AT**

**NO PREMIUM IN PRICE!**

**ANTI-PERCOLATOR**—A Stromberg feature which prevents waste of gasoline and hard starting when the engine is hot.

**ECON-O-METERING**—Separate and positive metering systems for the cruising range and high speed operation assures utmost economy under all conditions.

**ACCEL-ABILITY**—Positive and smooth acceleration that satisfies the most critical driver.

**BALANCED RATIO**—A sealed unit that automatically controls the amount of gasoline used in proportion to the amount of air. This means additional economy.

**SIMPLICITY**—Fewer working parts result in long wear and low maintenance costs.

*These Bendix signs stand for good business and for good business relations between factory, dealer and customer.*



Replacement Carburetors—Repair Kits



Hydrovac\* Power Brake—Trailer Power Braking Systems



Original Equipment on most cars



Cold Immersion Parts Cleaner saves time and money

Export Sales: Bendix International Division, 72 Fifth Avenue, N. Y. 11, N. Y.

## Service Suggestions . . . Continued from Page 126

have a modulated line pressure control, thereby it provides a higher average oil pressure. The front unit planetary carrier assembly, throttle valve pressure plug, and pressure regulator plug are additional parts that are not interchangeable. You should check your parts list carefully before ordering parts for either unit. You

can identify the commercial chassis transmission by the black background on the serial number plate while the passenger car transmission serial plate has a red background.

The reason for these differences is that the commercial chassis transmission was designed to provide better operating characteris-

tics under heavy loads, whereas the passenger car transmission was designed to provide smooth operating characteristics under lighter loads.

### Difficult Shifting Into High on Synchro-Mesh

Some reports have been received of difficulty in shifting from second to high on some 1949 and 1950 Pontiac six cylinder synchromesh models and also on some eight cylinder models prior to 1950.

This difficulty can be caused by the following:

1. The binding of the clutch driver plate hub on the splines of the transmission main drive gear, resulting in failure to release.

2. Sticking of the clutch driver plate to the flywheel plate resulting from an engine oil leak at the rear main bearing or a transmission lubricant leak at the front bearing oil seal

When cleaning the flywheel and the clutch pressure plate faces, avoid the use of petroleum products as they may leave a detrimental film on the surfaces. The use of alcohol, thinner or carbon tetrachloride is preferred.

The sticking of the clutch driver plate to the flywheel or pressure plate is due to vacuum between these members. To correct this, file grooves in the six cylinder facing, using a 1950 eight cylinder plate as a guide.



## Connecting Rod Service

Check the rods on every engine rebuilding job! It doesn't pay to take chances with doubtful rods—an out-of-round bore or a twisted forging can ruin your best work. Federal-Mogul rebabbitted or reconditioned rods are overhaul insurance! Top quality . . . top coverage . . . prompt delivery!

FEDERAL-MOGUL SERVICE • DETROIT 13, MICHIGAN  
(Division of Federal-Mogul Corporation)

*Ask your Federal-Mogul Jobber*



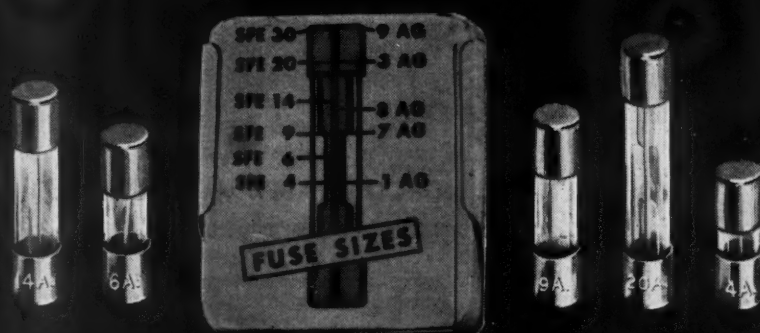


LITTELFUSE



Be sure of your fuse!  
You know you are getting *original component quality*  
when your fuses come in the handy green dispenser box

Be sure of your fuse  
by the handy fuse size guide  
on every LITTELFUSE  
dispenser box



The only improvement in fuse packaging in 25 years.  
Another LITTELFUSE first. One at a time dispensing.  
No lost covers. LITTELFUSE INC., 1757 Ravenswood,  
Chicago 40. LONGbeach 1-4970

## Current NPA Orders Affect Auto Industry

Cutbacks of 20 pct in the use of steel for making a wide variety of items (List A, M-47) should have only a negligible effect on the supply of repair parts. No limitation was placed on the use of steel for manufacture of replacement parts. The agency said production of such items is essential in order to make sure that

present vehicles, machinery and equipment be kept in top operating condition.

However, garages and filling stations will be affected less directly in another way by the order. The cutback applies to many items which will be needed for maintenance and operation of their establishments such as furniture and fixtures. More specifically, the 20 pct cutback is imposed on manufacture of showcases,

lockers, cabinets, chairs and stools, shelving and partitions, portable electric heaters, fans smaller than 16 in., and so on. Production of these items is thus automatically reduced by a fifth. The bright spot in the picture is the permitted use of the DO-97 priority rating for obtaining such goods when a source of supply is found.

Garages, filling stations, and other service type establishments may now use priority ratings to obtain materials or parts for maintenance, repair and operation of their establishments. This is authorized in NPA Reg. 4, generally known as the MRO order. However, the user of such a rating (DO-97) must find his own source of supply.

Use of the rating is easy. Just write on the order or a sheet of attached paper, over the signature of a responsible member of the firm, the phrase "DO-97, Certified under NPA Reg. 4." Approval of NPA is not necessary. However, once such a rating is used, the user becomes automatically bound by the restrictions laid down in Reg. 4. One of the important restrictions involves figuring out quarterly quotas (equal to a fourth of 1950 annual MRO buying). These quota limitations do not apply if MRO buying amounts to less than \$1,000 per quarter.

Service industries were in mind particularly in drafting the order. Since such establishments are not directly connected with production, use of priorities previously has not been available to them.

# 2-WAY OIL CONTROL PAYS AN EASY EXTRA PROFIT



## .... INSTALL **BURD** SUPER HI-SPEED OIL RINGS IN BADLY WORN CYLINDERS

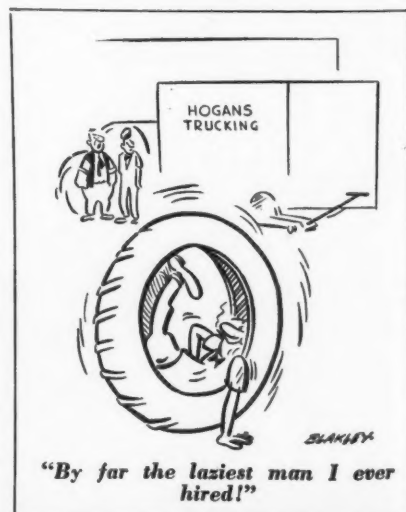
Start your oil control treatment with *Super Hi-Speeds*—the safe, sure way to eliminate oil pumping in tapered or out-of-round bores. Proved in practice, they conform to cylinder walls—assure maximum wiping action with minimum wear—restore power and compression—positively control oil. Available in combination sets for every make and model. Try them on your next tough job!



## .... FOLLOW UP WITH **BURD** EASY-TO-INSTALL VALVE PACKING

A smart move for both you and your customers. Gives them greater insurance against oil and compression leaks from worn valve stems and guides—gives you a well deserved extra profit. Burd is the original top-of-guide, intake valve packing that really keeps oil in the guide—keeps it out of the combustion chamber. Easy to use. Easy to order. Get it from your jobber!

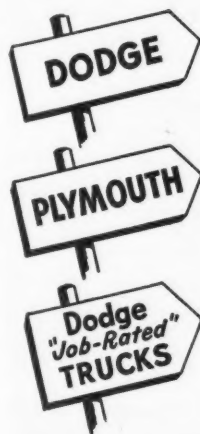
**BURD PISTON RING COMPANY • ROCKFORD, ILLINOIS**



"By far the laziest man I ever hired!"



## *Take this road to the* **TRIPLE PROFIT OPPORTUNITY**



Year in, year out, Dodge dealers are among the top 3 dealer organizations in number of vehicles sold.

• • •

80% of all new car buyers are Dodge or Plymouth prospects.

• • •

More than 98% of all hauling needs are met by Dodge "Job-Rated" Trucks.

**T**HERE IS a steady profitable service business from the Dodge-Plymouth family . . . 1 in every 5 vehicles on the highways today. And you are backed by intensive national and local advertising plus friendly factory-dealer teamwork. The Dodge agreement . . . the only one of its kind . . . offers a sound business future to persons or firms who can qualify.

**DODGE • PLYMOUTH • DODGE "Job-Rated" TRUCKS**

DODGE DIVISION, CHRYSLER CORPORATION • 7900 JOS. CAMPAU • DETROIT 11, MICHIGAN



## Safety Committee Members Honored for Public Support

The Inter - Industry Highway Safety Committee, two of its state safety chairmen, and three of its member dealer groups were honored last month for outstanding performance in 1950 in the field of organized public support for highway safety. They received Citation Awards of the National Committee for Traffic Safety.

The national citation was awarded for the Inter-Industry Committee's efforts in the fields of high school driver education, periodic "safety-check" of vehicles, and especially its coast-to-coast promotion of the "Man-to-Man" and "Dad - to - Daughter" safe - driving agreement program. James J. Newman, Vice President of the B. F. Goodrich Company, accepted the award as Chairman of the Inter-

Industry Committee, which is sponsored by the automobile and tire manufacturers, and the National Automobile Dealers Association.

## Fast Taxes Will Get Congressional Cold Shoulder

Congress is keeping a cold shoulder turned toward the White House request for a fast \$10 billion in new taxes, plus a later increase of another \$6 billion. The legislators are making it plain that they will enact new taxes in their own time and way—probably a single bill imposing about \$8 billion to \$10 billion.

Enactment of the Administration proposals would be widely felt by the motoring public. First of all, the Treasury-White House proposals would double the present 1½ cent federal gasoline tax to 3 cents per gallon. Then it is suggested that the present 7 per cent excise tax on the manufacturer's price for new passenger cars be boosted to 20 per cent. Combined, the Treasury estimates that these would extract an additional \$1.2 billion from car owner pockets. No new rates were proposed for new trucks, trailers and buses (now 5 per cent of manufacturers' price), on tires (5 cents a pound) or tubes (9 cents a pound), on parts and accessories (5 per cent of cost), or on lubricating oils (6 cents a gallon).



it cuts...  
it crushes...  
it strips...  
it bends...

# Herbrand's

TOOL-OF-THE-MONTH

# all purpose ELECTRICAL PLIER

No. 150

Herbrand's new plier No. 150 is specially designed for electrical, ignition, radio and general purpose work. Unequalled for use on relay, distributor, generator, dash panel, lights and all other automotive electrical service.

Two sharp side cutters, a wire crusher, a stripper and two jaws for bending wire... one round... one square... truly an all-purpose plier that every mechanic should have.

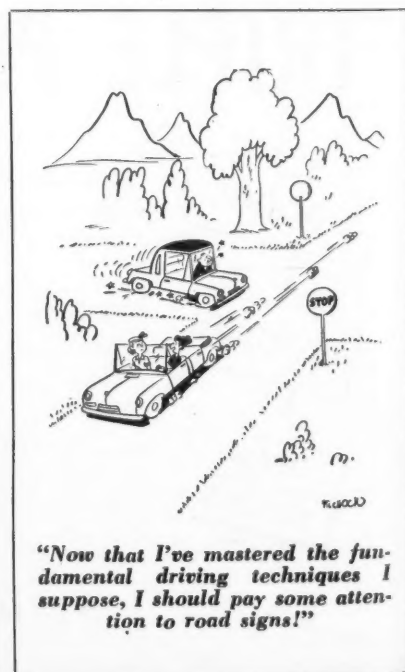
The No. 150 is made of special tool steel, drop forged and heat treated through and through to the very heart of the metal. Both the flat and round jaws have milled teeth for sure gripping. Overall length is 6" yet it weighs only 4½ ozs. and is perfectly balanced. Manufactured in Germany, B. Z. to rigid Herbrand specifications. Expertly finished in gunmetal with heads brightly polished.

The No. 150 Electrical Plier is Herbrand's current Tool-of-the-Month selection. See it at your Herbrand distributor, or write us

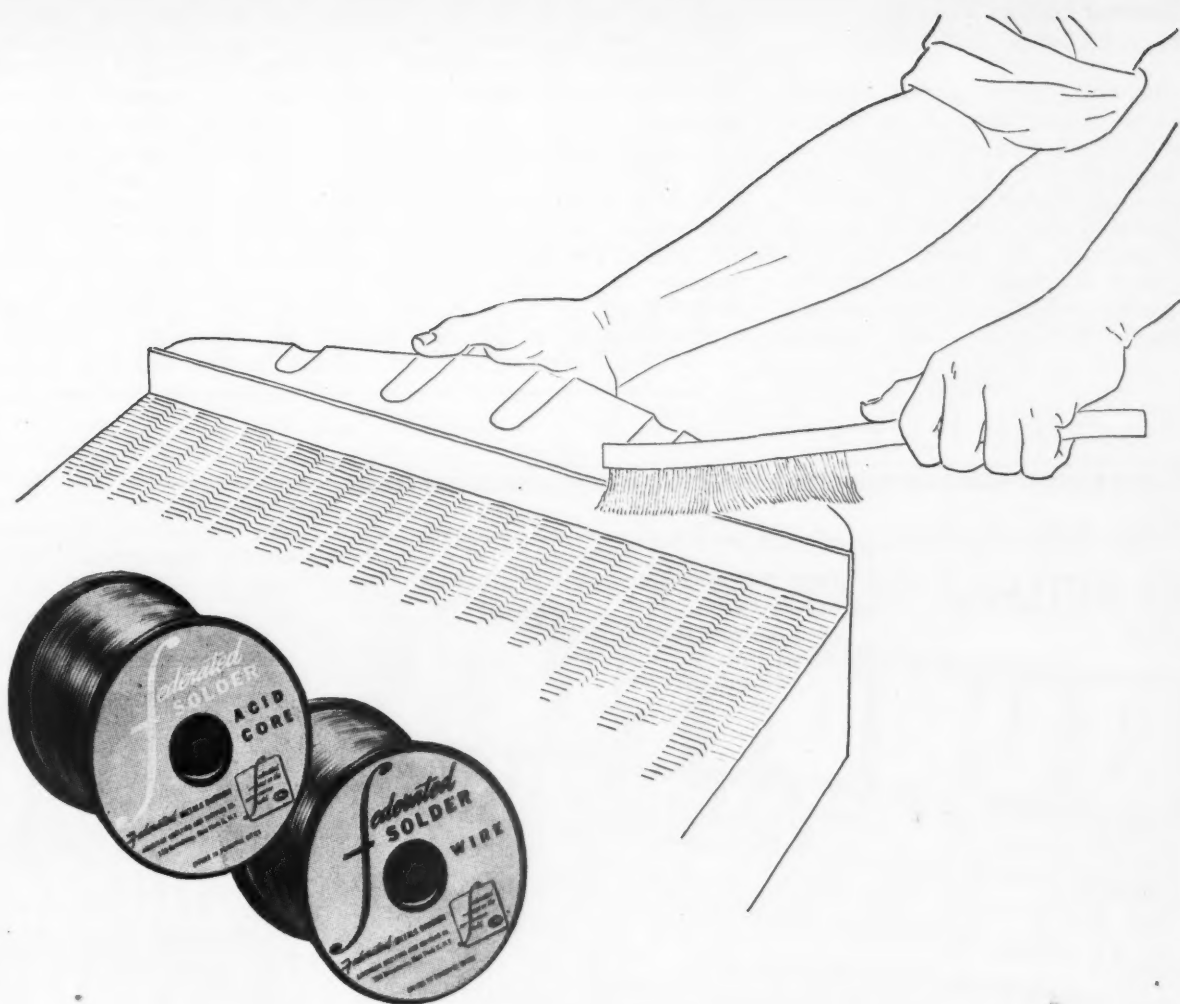
Mechanic's net \$2.50



Herbrand Tools, Fremont 7, Ohio

"Now that I've mastered the fundamental driving techniques I suppose, I should pay some attention to road signs!"



## HOW TO SOLDER BETTER...AND SAVE METAL!

Make the joint tight and permanent *the first time* by using the right solder and the right method of soldering.

### HOW TO USE . . .

Always be sure to clean *thoroughly* the surfaces to be soldered. Remove all traces of paint, grease, rust, or other metallic oxides. Use an abrasive such as sandpaper, steel wool, a file, or a wire brush to clean well. Solder sticks best to the bare metal.

### WHAT TO USE . . .

The solder you use may prove to be the difference between a job's success or failure . . . between having to do it once, or over and over again. *To be sure*, use the best solder . . . Federated Solder.

Federated® Solder is available in all commercial sizes, compositions and wire dimensions. Analysis of solder prominently displayed on box. Listed by Underwriters' Laboratories Inc.

# Federated Metals Division



AMERICAN SMELTING AND REFINING COMPANY • 120 BROADWAY, NEW YORK 5, N. Y.

## General Motors Annual Report Distributed

General Motors payrolls reached a new all-time high in 1950, while employment equaled the record set during World War II, it was announced today by C. E. Wilson, president, and Alfred P. Sloan, Jr., chairman of the board.

In a statement issued prior to distribution of GM's 1950 annual report, Wilson and Sloan termed

last year a good one for General Motors men and women from the standpoint of employee benefits and morale, as well as employment and payrolls.

Average employment of salaried and hourly-rate workers totaled 465,239 in 1950, a peacetime record and equal to the wartime peak year of 1944. This compared with an average of 401,326 employees in 1949.

Payrolls rose to a record high

of \$1,809,218,043 last year, compared with \$1,440,690,450 in 1949. The increase was attributed to a greater number of employees on GM's payrolls working steadily, and with substantial amounts of overtime. With most plants operating on a two-shift basis and many shifts totaling 45 or more hours a week, hourly-rate employees worked an average of 41.5 hours per week in 1950, compared with 39.5 the previous year.

In the United States plants, hourly-rate employees' earnings averaged \$75.58 last year as against \$68.41 in 1949. Hourly-rate payrolls in the United States totaled \$1,324,259,427 and average hourly-rate employment reached 336,933 in 1950. Comparable 1949 figures were \$1,019,293,641 and 286,525. \$1,019,293,641 and 286,525.

## The Most Astounding Product Acceptance IN AUTOMOTIVE HISTORY!

# BUNDYFLEX SUPER-SOFT COPPER-FUSED METAL TUBING

FOR BRAKE LINES, FUEL LINES, OIL LINES, OIL  
FILTER LINES, WINDSHIELD WIPER LINES, ETC.



**STANDARD EQUIPMENT  
MORE THAN 20 YEARS  
ON PASSENGER CARS, TRUCKS  
BUSES and FARM TRACTORS**

Always Better than Copper Tubing  
for Repairs and Replacements



**Easy TO BEND, FLARE,  
SOLDER, BRAZE and WELD**

### 5 PROTECTIVE LAYERS

Continuous Double-Wall Steel Tube,  
Fused Together with Copper-Steel Alloy  
Binder. Copper-Steel Alloy Inside and  
Outside Surfaces. No Welded Seams.

1. Copper-Steel Alloy Coat-  
ing (protects outer surface)

2. Outer Super-Soft Steel  
Wall

3. Fused Copper-Steel Alloy  
Center (unites 2 steel walls)

4. Inner Super-Soft Steel  
Wall

5. Copper-Steel Alloy Lin-  
ing (protects inner surface)

25-Ft. Coils: 1/8" 3/16" 1/4" 5/16" 3/8"

12-Ft. Straight Lengths: 7/16" 1/2" 5/8"



FORD  
MERCURY  
LINCOLN  
CHRYSLER  
DODGE  
DE SOTO  
PLYMOUTH  
CHEVROLET  
PONTIAC  
OLDSMOBILE  
BUICK  
CADILLAC  
PACKARD  
KAISER  
FRAZER  
HUDSON  
NASH  
STUDEBAKER  
WILLYS  
CROSLEY

DIAMOND-T  
FEDERAL  
G.M.C.  
INTERNATIONAL  
JEEP  
MACK  
REO

Standard Equipment  
on Refrigeration, Air  
Conditioning, Oil  
and Gas Heating  
and Industrial Ap-  
paratus, Airplanes,  
Diesel Locomotives,  
etc.

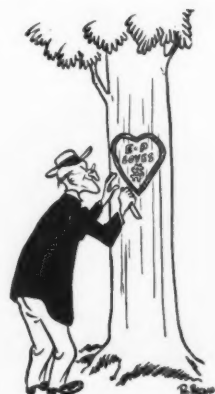
**EVERHOT PRODUCTS CO.** 2001-9 W. CARROLL AVE.  
CHICAGO 12, ILLINOIS

West Coast Warehouse 1305 South Hope St., Los Angeles 15, Calif.

## Certified Engine Expert



This metal sign will be furnished to  
repair men who qualify under the  
Certified Engine Expert Plan of Kop-  
pers Co.





# FAVORITE

## WITH CAR DEALERS!



### Helps Boost Sales for Your Entire Service Department!

**HERE'S WHY:** Mobiloil is backed by the greatest research, refining and marketing experience in the oil industry. Its famous quality is first with car owners 'round the world!

What's more, selling Mobiloil holds another big plus for car dealers . . . Socony-Vacuum's personalized training program. We not only teach your men *correct lubrication*; but show them how to feed more business to other service departments, and thus help your entire service set-up absorb more operating overhead!

Learn the full details! Call in your Mobilgas-Mobiloil Representative today!

SOCONY-VACUUM OIL CO., INC., and Affiliates;  
MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.



**Typical Classroom** in Socony-Vacuum's network of conveniently located retail training laboratories.

# Why Sell Anything Less?

## Car Production Continues to Hold Firm

It now looks as though any large drop in automobile production will come in the last half of this year, barring any further materials limitations orders. The most recent order calling for a 20 per cent reduction in the use of steel for passenger cars below the average monthly use during the first six months of last year will not mean

a 20 per cent reduction from current levels. Actually, limitation orders on the use of copper and aluminum already in effect during the first quarter have reduced individual company production by various amounts ranging from 10 to 25 per cent. The steel limitation order goes into effect April 1 along with a further 5 per cent reduction in the use of copper and a continuing 35 per cent cut in aluminum use. A point not cleared up is

whether in the second quarter the modification allowing the use of 75 per cent of the base for functional parts made of aluminum will continue. If it does not apply it will be more serious than the 20 per cent reduction in steel. Because of the Chrysler strike of 100 days last Spring, production during the first half of last year was not as high as it would have been normally and consequently output during the first half of this year is likely to be nearly as good as it was a year ago. There is a possibility, however, that the government will step in before too long and invoke more drastic curbs in use of steel or some other essential metal in which case production will drop off in proportion to the size of the cuts made in metals. Previously, the government had talked about a 40 per cent cut in use of steel, but that created such an uproar from the industry that government spokesmen said that they might go to the 40 per cent figure by degrees.

## New profits in sight with **pres-a-lite!**

the only automatic  
cigarette lighter  
and dispenser

- Over 1,500,000 sold!
- Advertised in Life and leading newspapers.
- Free handout folders, window posters, easel-back displays.



- Holds 23 cigarettes and lights them automatically while you drive.
- Clamps easily on steering column.
- Fits all cars, all makes, all models.
- Plugs into car lighter or connects to ammeter post.
- Durably constructed of Bakelite and aluminum.
- Endorsed by leading safety authorities.

**Accessory Dealers, New Car Dealers:** Order from your regular jobber.

**Ford Dealers:** Order from your supplying district . . .  
Part Number APA 18640A.

**the pres-a-lite corporation, 432 Fourth Ave., N. Y. 16, N. Y.**

Canadian Distributors:  
Van Der Hout Associates Limited, 90 Richmond Street West  
Toronto, Canada

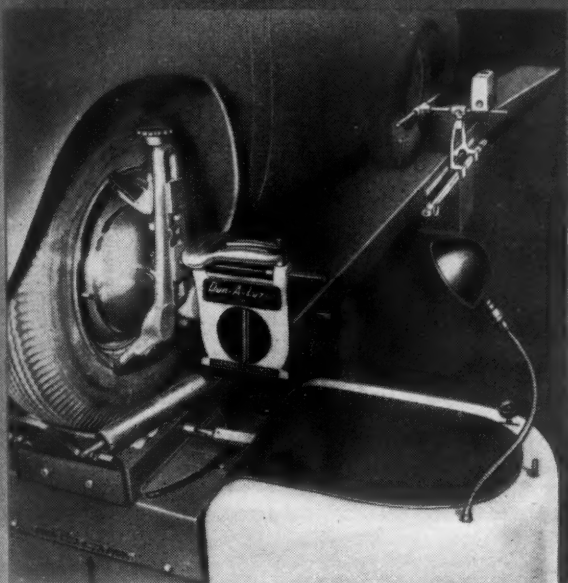
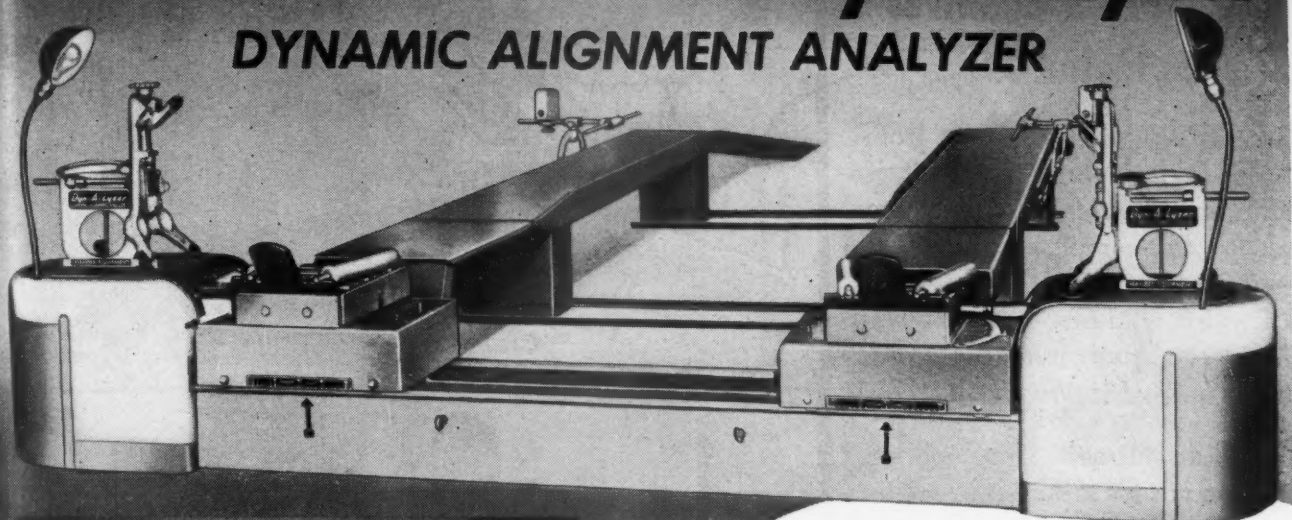
## Nine Year Old Jeep Wins Race Across Africa

A nine-year old Willys Jeep paced a field of 35 finishing cars to win first place in its own class, and to share first place honors with two other entrants in the over-all classification in a recent race from the Mediterranean Sea to Capetown, all the way across the continent of Africa. The car was driven by Mario Veglia of Turin, Italy. He drove from Algiers to Capetown in sixty days, covering 9050 miles without a serious mishap.



# The NEW—Manbee Dyn-A-Lyzer

## DYNAMIC ALIGNMENT ANALYZER



### Packed with NEW Exclusive Features

- **POWER OPERATED** — Measures alignment with wheels power driven under load in true driving position.
- **ACCURATE** — Spirit Level Gauges give direct readings with correction for rim runout, yet automatically indicate rim runout in degrees.
- **SIMPLE** — Direct Reading Gauges with greatly magnified scales. No figuring.
- **COMPLETE** — Checks both tracking and camber of rear wheels.
- **THOROUGH** — Checks Center-point Steering based on proper tracking of all four wheels.
- **FAST** — Checks Caster, King Pin Inclination and Turning Radius in the same operation.
- **DEPENDABLE** — Combines the basic accuracy of Manbee Spirit Level Gauges with power operation. No hidden adjustments to maintain.
- **BUILT FOR KEEPS** — Made extra heavy throughout to stay right under service conditions.

## The ULTIMATE in 4-Wheel Alignment

**Dynamic Alignment Analysis with the wheels power-driven under load.** No guesswork. The measurements show the true alignment of the wheels when the car is driven. Car manufacturers have spent years and tremendous sums of money to produce similar results in laboratories.

**Center-point Steering Correction based on proper tracking of all four wheels.** There's nothing like it.

**Direct Reading of Alignment Measurements under driving conditions.** Nothing hidden. Nothing mysterious. No wonder car owners drive long distances to have their cars Dyn-A-Lyzed.

### What Dyn-A-Lyzer owners say—

*"It's the smoothest, fastest, most accurate and the most convincing alignment analysis I've ever seen."*

*"The Dyn-A-Lyzer is perfect. We are using it for a lot of work with excellent results and no 'comeback' work."*

**DON'T OVERLOOK THIS ONE!** The first Dyn-A-Lyzer in any area will be owned by a LEADER. Ask your MANBEE Jobber or send for complete information.

### MANBEE EQUIPMENT DIVISION

185-A North Wabash Ave., Chicago 1, Ill.

Please send complete information about the New Dyn-A-Lyzer.

Name \_\_\_\_\_ Title \_\_\_\_\_  
 Company \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



## What you should know about additives in Motor Oils

Because Valvoline is made from 100% Pennsylvania crude oil, it contains practically everything needed for complete lubrication—in *natural* form. Of course, Valvoline contains sufficient additives to give added cleaning action and other *plus* advantages.

But in an oil made from inferior crude, *additives* are used to artificially bring the oil up to standard requirements. Such oils often lose much of their protective qualities when the additives wear out.

That is the big difference in Valvoline. Your customers get extra protection from Valvoline in the Danger Zone—those last few hundred miles before the oil is changed.

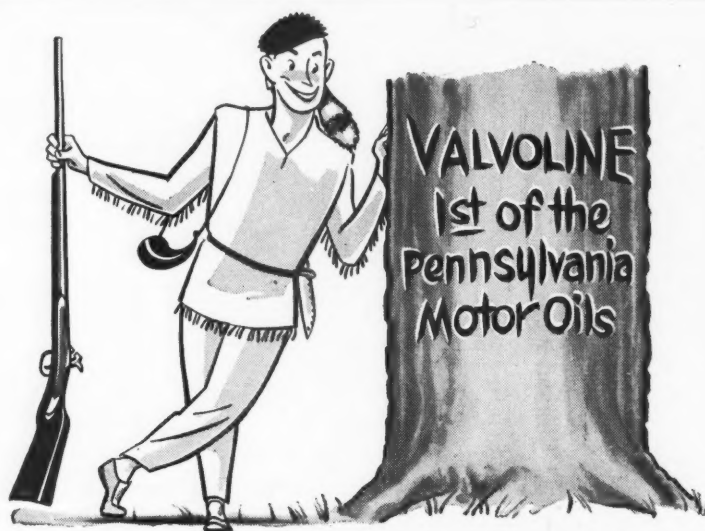
## Car owners appreciate VALVOLINE

Everyone knows that natural products are best. It's easy to explain why Valvoline Motor Oil is superior. Valvoline users are repeat customers, too—always have been, for the past 84 years.

**Take that first step**  
on your road to greater profits—  
wire, phone or write your nearest  
Valvoline branch today.

**FREEDOM-VALVOLINE OIL COMPANY,**  
Freedom, Pennsylvania.

An Affiliate of Ashland Oil & Refining Company.  
Offices: New York, Toronto, Pittsburgh, Jacksonville,  
Atlanta, Detroit, Cincinnati, Chicago, Los Angeles,  
San Francisco, Portland, Seattle, Vancouver, B. C.



**UNCONDITIONALLY GUARANTEED:** Your money back if you  
don't agree Valvoline outperforms any oil you've ever used.

AS ADVERTISED IN  
**THE SATURDAY EVENING  
POST**  
New Quick-Reading Cartoon  
Campaign now selling your  
Customers Twice each month!

**VALVOLINE**  
100% Pennsylvania  
**MOTOR OIL**



was my face red

...when the explorer lost his bearings

"You might call Joe Jackson an explorer. He likes to vacation in out-of-the-way spots. So I service his car for one of these trips, and what happens? A front wheel bearing conks out when he's miles from nowhere. But that sure taught me a lesson. Since then it's been new oil seals on every front wheel re-pack job, just like car manufacturers recommend. I've found this is cheap insurance, and, what's more, the customer doesn't mind paying the few pennies premium for this protection."



*Install a new oil seal  
whenever you take one out!*

— CAR MANUFACTURERS RECOMMEND IT

**Handy cabinet at no cost with fast-selling assortment**

Experience shows it is very difficult to remove an oil seal without damaging it beyond further safe use. Keep an assortment of National Oil Seals handy so you can put in a new seal every time you take one out. National has two assortments available; one contains front wheel seals only and the other both front and rear wheel seals for the most popular cars. Every seal is a fast-selling number. You get the cabinet at no cost when you buy the initial assortment. See your jobber about it now.

**NATIONAL**  
OIL AND GREASE SEALS



Approved original equipment for all cars, trucks, busses and tractors.

For brake and repair shops,  
contains front and rear  
wheel seals with extra space  
for bearings.



♦ Ideal for lube stations, contains front wheel seals only.



**NATIONAL MOTOR BEARING CO., INC.**

General Offices: Redwood City, Calif.

Plants: Redwood City, Calif.; Van Wert, Ohio

2206

# Complete Replacements

for ALL Vacuum Windshield Wiper Motors\*  
WITH ONLY

## 6 ANCO® Models

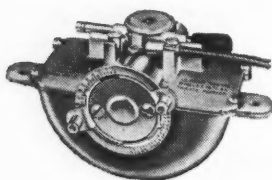


### \* REPLACE ALL

- CABLE LINKAGE MOTORS
- BAR LINKAGE MOTORS
- DIRECT DRIVE MOTORS

### MAXIMUM SERVICE with MINIMUM INVENTORY

Now only six models Anco Windshield Wiper Motors replace all original equipment vacuum motors on all vehicles 1935 and later models—(except only a few very rare and long obsolete vehicles).



#### OPEN STOCK

All Anco Motors—as well as Anco Blade and Arm products—may be ordered . . . in any quantity needed . . . from open stock.



#### KOVERS-ALL MOTOR SERVICE SET-UP

This factory-sealed carton starts dealer with everything required for full-range service.



#### MOTOR SERVICE CABINET

This all-metal cabinet contains an "organized" stock of everything required for dealer's full-range service. Cabinet may be used separately or combined with Anco All-Car Service Windshield Wiper Blade and Arm Cabinet making a complete windshield wiper service department.

#### BONDED

... to please owner as long as he keeps the car on which installed . . . Lots more power . . . Lots less stall . . . Adjustable blade travel setting compensates for linkage wear and prevents blade slapping against edge of windshield.

## THE ANDERSON COMPANY

GARY, INDIANA

Makers of Accepted Automotive Products Since 1918



How the  
**Gatke**

## DUZ-ALL SYSTEM WORKS



### This DUZ-ALL DEAL Relines 1176 Models

of passenger cars and trucks from  
1930 including all Bonded Jobs

- Reduces Inventory
- Stops Obsolescence
- Saves Time
- Saves Space
- Speeds Service
- Increases Profit

**Deal Cost to Dealer \$59.00**

F.O.B. Warsaw, Ind.



# Gatke

A GREAT NAME IN BRAKE LINING

GATKE CORPORATION—Automotive Division  
General Offices: 228 N. LaSalle St., Chicago 1, Ill.  
Factories at Warsaw, Indiana and North Brookfield, Massachusetts



- A.** Using a Chevrolet Shoe as an example the picture shows simplicity of relining any brake shoe — either riveted or bonded (undrilled) type with the GATKE DUZ-ALL System.
- B.** Clamp DUZ-ALL Jig 11-S to Shoe and drill. Drilling time is 10 minutes for 8 shoes.
- C.** The DUZ-ALL DRILLING PATTERN, specially engineered to properly anchor the liner, completely misses all holes of the conventional shoe drilling.
- D.** Rivet DUZ-ALL Liner No. 78-S to the shoe in the regular way and the shoe is ready to install on the car.

Jig No. 11-S fits shoes used on 246 models of Chevrolet, Chrysler, DeSoto, Dodge, Kaiser-Frazer and Studebaker passenger cars and Trucks.

Six DUZ-ALL Drill jigs fit shoes used on all passenger cars and light trucks—1176 models since 1930.

A chart showing the simple method of selecting the right DUZ-ALL Jig and Liner for any shoe will be sent promptly on request.

**Ask your GATKE Jobber or write.**

BOWER

ROLLER BEARINGS

**get 'em  
from your  
FEDERAL-MOGUL  
jobber!**

**Yes! You can get famous Bower  
Roller Bearings through your Federal-Mogul  
jobber NOW!**

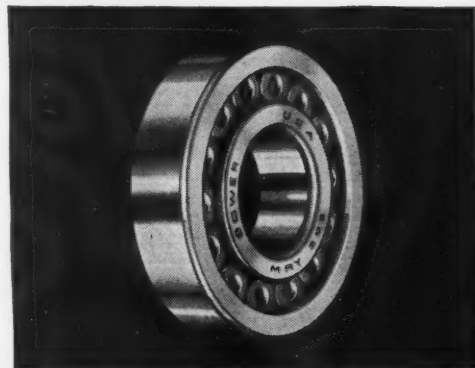
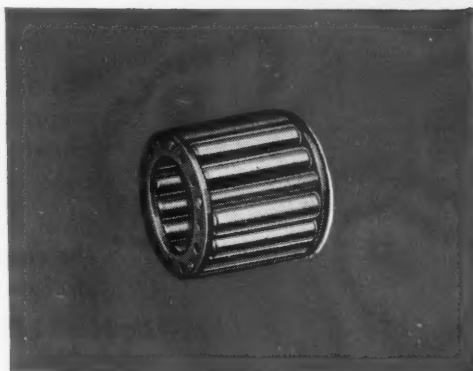
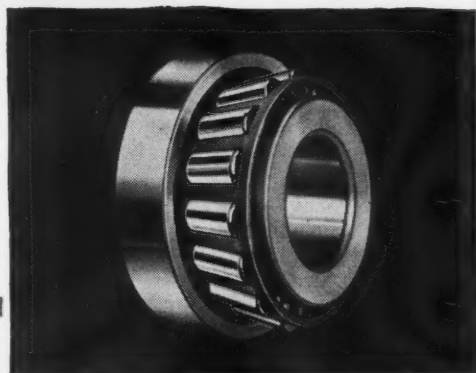
**Two of the best-known names in automotive  
bearings cooperate in bringing to  
you this better service; to meet your roller  
bearing needs accurately and quickly.**

**Federal-Mogul jobbers provide Bower's  
complete coverage of tapered roller bearing  
applications, plus popular numbers in straight  
roller bearings. Ask your Federal-Mogul  
jobber—ask him today!**

**FEDERAL-MOGUL SERVICE**

(Division of Federal-Mogul Corporation)

**DETROIT 13, MICHIGAN**



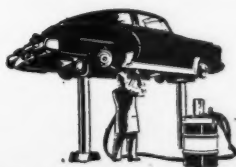
# 50% MORE PROFIT

## WITH CONCENTRATED

# LION *Nōkōrōde*

### UNDERCAR SEALER AND SILENCER

**150**  
Perfect  
undercoating jobs  
at the cost of  
**100**



### IT'S SIMPLE ARITHMETIC!

Most ordinary undercoatings contain a large percentage of solvent. You spray these undercoatings to a  $\frac{1}{8}$ " thickness—but when the solvent dries out, you're left with about  $\frac{1}{16}$ " thickness.

Lion Nokorode Under-Car Sealer and Silencer is *concentrated*. You spray Nokorode to  $\frac{1}{16}$ " thickness—and it dries to almost  $\frac{1}{16}$ " thickness. There's no wasteful excess solvent.

Result: You can do half again as many cars with *the same amount* of Lion Nokorode as you'd do with ordinary undercoatings. Yet Nokorode costs no more. Drum for drum, *you make 50% more profit with Nokorode!* Nokorode is *uniform*, for smooth application. It's *homogenized*—won't clog guns. And it's *guaranteed* to give complete customer satisfaction. Start making money with Nokorode—send the coupon below *now!*

Made Under The Process Of U. S. Patent No. 2,393,774

## WE HELP YOU SELL *Nōkōrōde*

### WITH POWERFUL ADS IN THE

SATURDAY  
EVENING

## POST AND TIME



Made and  
Guaranteed by

**LION OIL COMPANY** EL DORADO, ARKANSAS

## FREE!

How To Make  
More Money From  
Undercoating!



LION OIL COMPANY, El Dorado, Arkansas

Please send me complete details on how I can increase my undercoating profits with Lion Nokorode Under-Car Sealer and Silencer.

Name

Street or Route

City  State

Brand of undercoating I am now using, if any



***You get more for your Money***  
***in***

# **CHILTON'S MOTOR AGE Flat Rate & Service Manual**

**You always have • You always will • Here are  
the "extras" you get in the 1951 Edition—now on press**

- A separate "Quickie" Cardboard List of 72 most commonly used "Everyday" Operations.
- A larger but simpler Major List of Operations breaking down the jobs more than ever before.
- A brand new Truck Flat Rate Section. The only book of its kind with this material.
- Parts Interchangeability indicated by a Star beside the Parts Number so user can refer to Chilton's Service Handbook that contains Chilton's List of Interchangeable Parts.

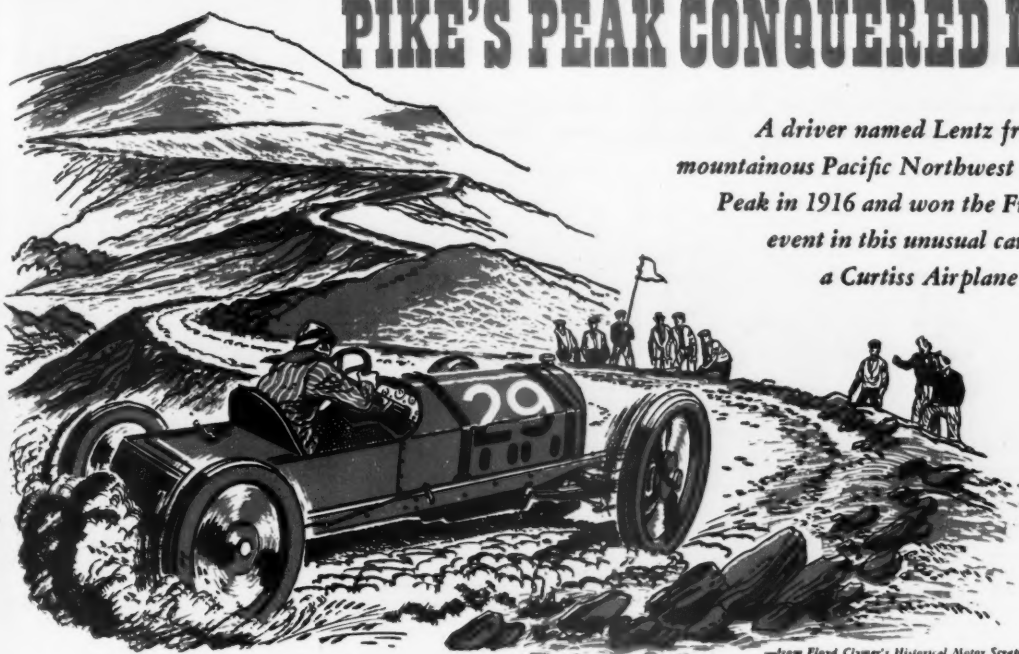
**And as usual Chilton's Labor Hours—time-studied  
by Chilton provide the fairest charges for the Shops**

**MORE PAGES • MORE INFORMATION  
MORE PICTURES • MORE OF EVERYTHING**

**WAIT FOR THE CHILTON MAN**

**DO NOT BUY A 1950 BOOK • DO NOT BUY UNTIL YOUR  
CHILTON MAN REACHES YOU.**

# PIKE'S PEAK CONQUERED IN 1916!



*A driver named Lentz from the mountainous Pacific Northwest came to Pike's Peak in 1916 and won the Free-for-All event in this unusual car powered by a Curtiss Airplane engine.*

—from Floyd Clymer's Historical Motor Scrapbooks—

## NOW... You can conquer peak accounting loads with this PERPETUAL STATEMENT SYSTEM!

With Reynolds & Reynolds Perpetual Statement System, you can help eliminate peak end-of-month accounting loads, prevent many transcribing errors, save clerical time and be sure monthly statements are always out on time.

One writing, as transactions are made, posts both the customer's statement and the ledger card. Statements are filed with the ledgers. At the end of the month, statements are removed from the file, up to date, ready to mail.

This Reynolds & Reynolds Perpetual Statement System is produced in several sizes for hand or typewriter use. Also complete machine accounting systems are available. Use the coupon below to get complete information on this profit-building Reynolds & Reynolds system.



... one of the several hundred sales aids and operating systems that build and protect your profits, produced by Reynolds & Reynolds



The Reynolds & Reynolds Company  
Celina, Ohio

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**The REYNOLDS & REYNOLDS Company**

CELINA, OHIO

OFFICES IN PRINCIPAL CITIES

WESTERN BRANCH: 3044 RIVERSIDE DRIVE, LOS ANGELES

## Current Passenger Car Price, Weight and Body Table

**Following are prices at factory for cars with standard equipment as of March 26, 1951. State or local taxes, transportation and finance charges and optional equipment are extra.**

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight		
BUICK					CROSLEY (Continued)					HUDSON (Continued)					PACKARD (Continued)						
Special 40					Sta. Wagon	849			1403	Hornet					Conv. Cpe.				3321	4040	
Bus. Coupe, 2d.	1724	126	1850		Super Sports	859	66	925		Club Cpe.					300-2402						
Spt. Coupe, 2d.	1775	129	1904		Sup. Sed., Del.	883	68	951		Sedan, 4d.					Tour. Sedan.	2716	179	2895	3930		
Sedan, 2d.	1806	131	1937		Sup. Conv.	886	68	954		Conv. Brghm.					400-2406						
Sed. Del., 2d.	1847	134	1981	3615	Sup. Sta. Wgn.	914	70	984							Tour. Sedan.	3283	212	3495	4115		
Sedan, 4d.	1858	134	1992	3605						KAISER											
Sed. Del., 4d.	1899	136	2035	3680	DE SOTO†										Special						
Sed. Rivra., 2d.	1934	138	2072		De Luxe					Bus. Coupe	1834	116	1950			PLYMOUTH					
Conv. Cpe., 2d.	2232	153	2385		Club Coupe	1921	107	2028	3475	Club Coupe	1971	123	2094			Concord P22					
Super 50					Sedan, 4d.	1931	108	2039	3570	Sedan, 2d.	1991	123	2114			Coupe, 3p.	1330	78	1408	2919	
Sed. Del., 2d.	1946	148	2094	3685	Carry-All	2130	119	2249	3685	Sedan, 4d.	2042	123	2165	3150		Sedan, 2d.	1448	84	1532	2969	
Sed. Rivra., 2d.	2040	154	2194	3765	Sedan, 8p.	2602	144	2747	4045	Traveler, 2d.	2087	130	2217			Suburban	1788	103	1891	3124	
Sed. Del., 4d.	2041	153	2194	3755	Custom					Traveler, 4d.	2137	131	2268			Savoy	1890	109	1999	3184	
Sed. Rivra., 4d.	2112	157	2269	3845	Club Coupe	2096	117	2213	3585	DeLuxe						Cambridge					
Conv. Cpe., 2d.	2369	171	2540	3965	Sedan, 4d, 6p.	2114	118	2232	3685	Bus. Coupe	1991	123	2114			P23					
Est. Wagon, 4d.	2728	189	2917	4100	Sportsman	2421	134	2555	3760	Sedan, 2d.	2098	129	2227			Club Coupe	1474	86	1560	3059	
Rfdmaster 70	2635	200	2835	4240	Convertible	2508	139	2647	3840	Club Coupe	2117	131	2248			Sedan, 4d.	1505	88	1593	3104	
Sed. Rivra., 4d.	2723	205	2928	4235	St. Wgn. Steel	2642	146	2786	3960	Sedan, 4d.	2146	132	2278	3225		Cranbrook					
Rivra Cpe., 2d.	2846	212	3058	4355	Sedan, 8p.	2785	154	2939	4155	Traveler, 2d.	2195	135	2330			P23					
Conv. Cpe., 2d.	2846	212	3058	4355	Suburban	3093	171	3264	4395	Traveler, 4d.	2244	137	2381			Club Coupe	1556	89	1645	3074	
Est. Wagon, 4d.	3287	234	3521	4470												Sedan, 4d.	1582	91	1673	3109	
										LINCOLN							Conv. Ch. Cpe.	1926	109	2035	3294
CADILLAC					DODGE†										PONTIAC						
Series 61					Wayfarer, D41					Coupe, 6p.				4140		Chief, 8					
Coupe, 2d.				3870	Coupe, 3p.	1566	88	1654	3125	Spt. Sedan, 4d.				4180		Bus. Coupe	1588	116	1684	3272	
Sedan, 4d.				3990	Roadster, 3p.	1679	94	1773	3175	Lido				4160		Sed. Coupe	1688	122	1810	3303	
Series 62					Sedan, 2d.	1689	95	1784	3215	Cosmopolitan						1888	122	1810	3326		
Coupe	3035	195	3230	4050	Meadow'k D42					Coupe						1737	124	1861	3363		
Cpe. de Ville	3117	199	3316	4140	Sedan	1797	100	1897	3415	Spt. Sedan						1780	127	1907	3318		
Conv. Coupe	3399	214	3613	4020	Coronet D42					Capri						1780	127	1907	3333		
Series 60	3527	220	3747	4340	Club Coupe	1860	104	1964	3320	Convertible, 6p						1829	129	1958	3371		
Sedan, 4d.	3655	238	3893	4200	Sedan, 4d.	1874	104	1978	3415	MERCURY						1888	138	2124	3429		
Series 75					Conv. Coupe	2265	125	2390	3575	Coupe, 72A						1829	129	1958	3371		
Sedan, 8p, 4d.	4590	298	4888	4690	Sedan, 8p.	2545	142	2687	3750	Coupe, 72B						1988	138	2124	3429		
Imperial	4774	307	5081	4710	Diplomat	2162	120	2282		Spt. Sedan						2043	141	2184	3433		
					Sierra	2416	134	2550		Monterey						2043	141	2184	3433		
CHEVROLET					FORD					NASH					STUDEBAKER						
Styl. Spec. JJ					Six					Rambler					Sed. Cpe.	1667	121	1788	3341		
Bus. Coupe	1273	91	1364	3040	Bus. Coupe				2960	Convertible	1769	117	1886	2430	Del. Sed. Cpe.	1760	126	1888	3341		
Sedan, 2d.	1345	95	1440	3095	Tudor				3005	Suburban	1667	112	1798		Sta. Wag.	2243	151	2394	3699		
Spt. Coupe	1350	95	1445	3060	Fordor				3075	Statesman					Del. Sta. Wag.	2320	155	2475	3821		
Sedan, 4d.	1391	98	1489	3130	Custom 6					Bus. Coupe	1638	117	1755	2900	Chief, 6						
Fltn. Spec. JJ					Tudor				3005	Super					Bus. Cpe.	1501	112	1613	3191		
Sedan, 2d.	1345	95	1440	3090	Club Coupe				2995	Sedan, 2d.	1715	122	1837	2930	Sed. Cpe.	1621	118	1739	3222		
Sedan, 4d.	1391	98	1489	3130	Fordor				3075	Club Cpe.	1738	122	1860	2940	Sedan, 2d.	1621	118	1739	3241		
Styl. Del. JK					Sta. Wagon				3510	Sedan, 4d.	1741	122	1863	2965	Del. Sed. Cpe.	1713	123	1836	3222		
Sedan, 2d.	1422	100	1522	3110	Eight				3000	Custom					Del. Sed., 2d.	1713	123	1836	3241		
Spt. Coupe	1437	101	1538	3115	Bus. Coupe				3045	Sedan, 2d.	1869	131	2000		Del. Sed., 4d.	1763	126	1889	3277		
Sedan, 4d.	1468	102	1570	3140	Tudor				3045	Club Cpe.	1892	131	2023		Catalina Del.	1920	134	2054	3341		
Bel Air Coupe	1673	114	1787	3225	Fordor				3115	Sedan, 4d.	1895	131	2026	2990	Cat. Sup. Del.	1976	137	2113	3351		
Conv. Coupe	1776	120	1896	3380	Custom 8				3045	Club Cpe.					Del. Conv. Cpe.	2038	141	2179	3481		
Sta. Wag. Steel	1920	126	2046	3470	Tudor				3045	Ambassador					Streaml. 8						
Fltn. Del. JK					Club Coupe				3035	Super					Sed. Cpe.	1600	117	1717	3241		
Sedan, 2d.	1422	100	1522	3125	Fordor				3115	Sedan, 2d.	2050	144	2194	3325	Del. Sed. Cpe.	1693	122	1815	3261		
Sedan, 4d.	1468	102	1570	3165	Crestliner				3065	Club Cpe.	2072	144	2216	3335	Sta. Wag.	2176	148	2324	3601		
CHRYSLER†					FRAZER					OLDSMOBILE					WILLYS						
Windser 6					Sedan, 4d.	2221	138	2359	3535	88					Jeepster, 4 cyl.	1290	53	1343	2451		
Club Coupe	2055	114	2169	3595	Vagabond	2259	140	2399	3555	Sedan, 2d.	1832	138	1970	3507	Jeepster, 6 cyl.	1490	82	1572	2481		
Sedan, 4d, 6p.	2074	116	2190	3665						Sedan, 4d.	1889	141	2030	3542	Sta. Wgn., 4 cyl.	1580	88	1678	2813		
Sedan, 4d, 8p.	2776	163	2929	4155						Sed. Del. 2d.	1909	141	2050		Sta. Wgn., 6 cyl.	1665	92	1757	2831		
Twn. and Cty.	2659	147	2806	3975						Sed. Del. 4d.	1966	145	2111		Sta. Wgn., 4WD	1990	92	2082	3171		
Wind. Del. 6					HENRY J					Super 88											
Club Coupe	2243	125	2368	3770	Sedan, 2d, 4 cyl.	1253	81	1334	2300	Club Cpe. Del.	1945	144	2089								
Sedan, 4d, 6p.	2284	126	2390	3705	Sedan, 2d, 6 cyl.	1380	87	1467	2325	Sed. Del. 2d.	1896	146	2132								
Traveler, 4d, 6p.	2489	137	2626	3890						Sed. Del. 4d.	2043	147	2190	3636							
Newport, 6p.	2564	141	2705	3855	HUDSON					Hol. Cpe. Del.	2248	159	2407								
Conv. Cpe., 6p.	2666	147	2813	3945	Pacemaker 6					Conv. Cpe. Del.	2351	165	2516								
Sedan, 4d, 8p.	2966	163	3129	4295	Coupe, 3p.					88											
Limousine	3089	170	3259		Sedan, 4d.					Holiday Cpe.	2284	162	2446	3782							
New Yorker 8					Club Coupe					Sed. Del. 4d.	2294	162	2456	3787							
Club Coupe	2656	147	2803	4145	Brougham					Hol. Cpe. Del.	2536	176	2712	3957							
Sedan, 4d, 6p.	2682	148	2830	4260	Sedan, 4d.					Conv. Cpe. Del.	2664	182	2846	4107							
Newport	3047	168	3215	4330	Club Cpe.					98											
Conv. Coupe	3150	173	3323	4460	Conv. Brghm.					Del. 200											
Imperial 8					Super 6					Club Sedan.	2299	146	2445	3605							
Club Coupe	2960	163	3123	4350	Brougham					Sedan, 2d.	2347	148	2495	3660							
Sedan, 4d.	2971	163	3134		Sedan, 4d.					Del. 200											
Newport					Club Cpe.					Club Sedan.											
Conv. Coupe	3604	197	3801		Conv. Brghm.					250											
Crown Imp.					Commodore 6					Coupe, Mayf.											
Sedan, 4d, 8p.					Club Cpe.																
Limousine					Sedan, 4d.																
					Conv. Brghm.																
					Commodore 8																
CROSLEY					Club Cpe.																
Hotshot	809	63	872	1175	Sedan, 4d.																
Sedan, Del.	818	64	882	1363	Conv. Brghm.																

‡ Prices do not include delivery and handling charges.



# Sell Them Together!



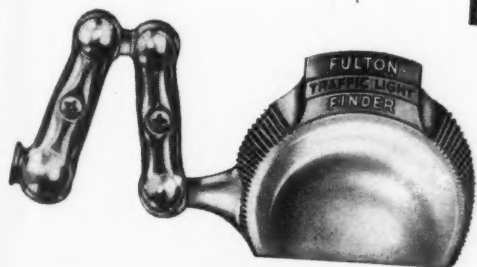
## FULTON SIDE SHIELDS

Your customers will quickly recognize the utility value of Fulton Side Shields. They keep rain out, let fresh air in through lowered windows. They are easily painted right along with the Sun Shield. Quickly installed on car doors by stainless steel spring clips, no drilling needed. List, \$7.95 per pair.

## FULTON SUN SHIELD

A market unlimited . . . because the Sun Shield is the one accessory that can provide the greatest improvement in driving ease, comfort and car appearance. Owners always enthuse, "I wouldn't drive without one." Make the most of this customer acceptance. Keep pushing the sale of the Fulton Sun Shield. List, \$24.95.

**BOTH . . .**



- contribute to driving safety.
- provide all-weather protection, graceful styling.
- are POST advertised.
- bring welcome accessory volume.

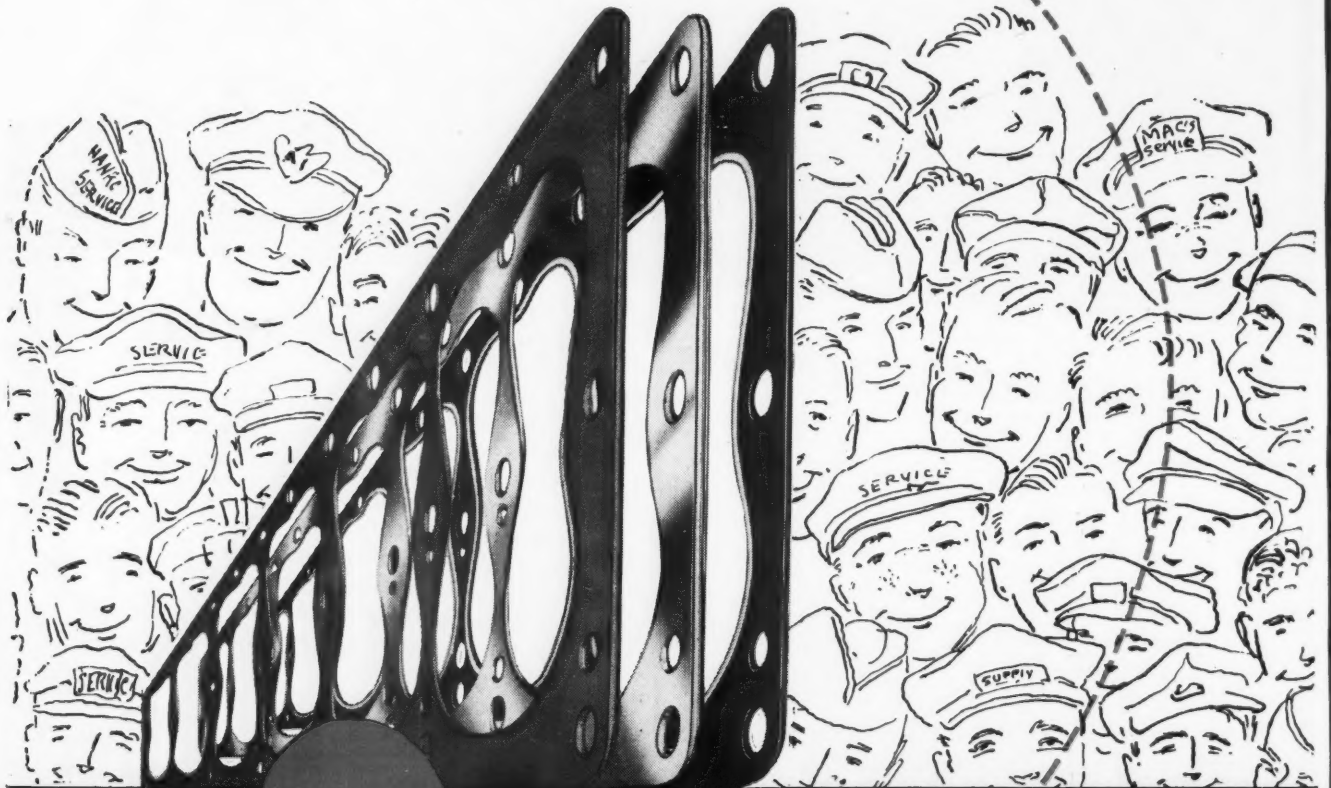
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Today's problem of gasket supply due to defense requirements was anticipated by Fel-Pro many months ago. Fel-Pro Engineers were assigned the task of developing gaskets that would serve dependably in any possible emergency. Fel-Pro Engineers completed their assignment admirably by developing gaskets, thoroughly tested and proven, that carry the same guarantee as the Fel-Pro Gaskets you are now using! Fel-Pro's purpose is twofold—FIRST to insure that America's vital transportation system is kept rolling. SECOND to insure Fel-Pro Users an adequate supply of thoroughly dependable gaskets to meet practically all demands. In any event, play safe—always ask your Jobber to reach for Fel-Pro FIRST!



Match original equipment fit . . . quality . . . performance

COPPER

STEEL

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"NOW FEL-PRO'S FOILED ME AGAIN"  
—SAYS LITTLE DRIP



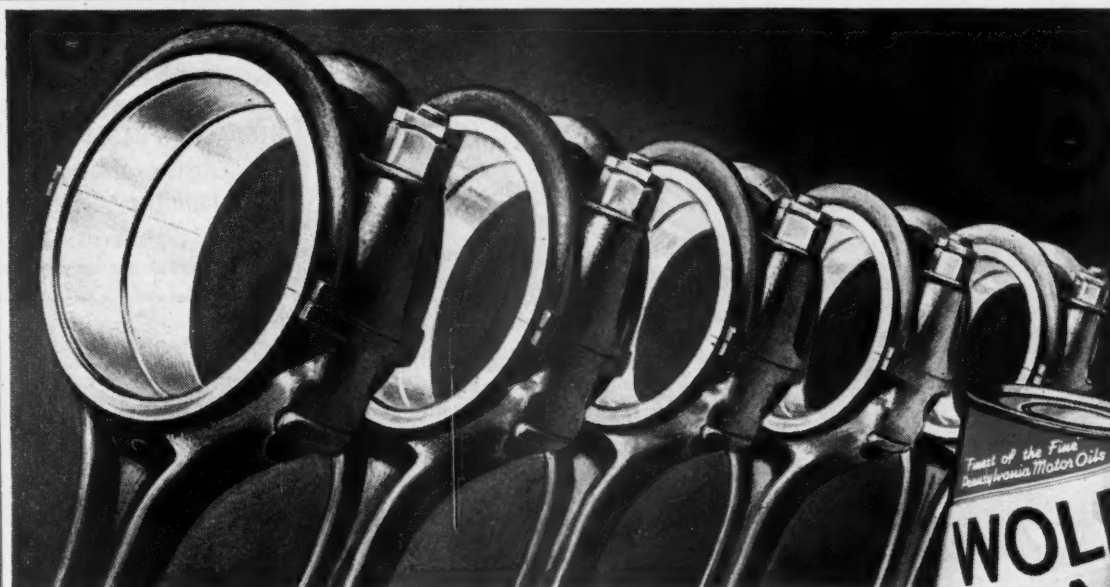
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DELICATELY machined to tolerances measured in thousandths of an inch, bearings are truly "pictures of perfection." Their *only* protection against friction, excessive wear, heat, and corrosive acids is a *microscopic film of oil*.

Be sure that you recommend and sell the best protection that money can buy . . . WOLF'S HEAD Motor Oil—100% Pure Pennsylvania, Premium Grade. WOLF'S HEAD is made from nature's finest crude, refined three steps further than ordinary oil:

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ABOUT YOUR  
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- 2** DOUBLE-DISTILLED —free from impurities that cause excessive oil consumption, sludge, undue wear.
- 3** TRIPLE FILTERED —highly resistant to sludging, oxidation. Non-corrosive to bearings. Won't thin out at high temperatures or get sluggish at low temperatures.

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## MOTOR OIL AND LUBES

100% Pure Pennsylvania  
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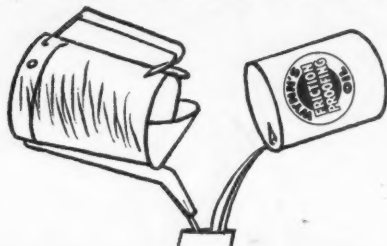
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### WYNN'S GIVES YOU AN EXTRA 35¢\* CLEAR PROFIT ON EVERY OIL CHANGE

Try this on every oil change job: Tell your customers Wynn's boosts gas mileage 10% or more, reduces carbon and sludge, gives engines more power, less wear. Takes a minute to sell — means 35c extra profit for you — simply for opening a can of Wynn's. Best of all, Wynn's nails down repeat business. Once a customer has tried it, he'll be back for more Wynn's every 1000 miles.

\*Based on national average profit.



P.S. Clear an extra 38¢ by adding Wynn's on every T & D job, too.

Wynn's Friction  
Proofing Oil • Azusa, Calif.

## CALENDAR OF COMING EVENTS

May 13-16—North Carolina Auto Dealers Assn. 16th Annual Convention, Carolina Hotel, Pinehurst, N. C.

May 14-15—Missouri Automobile Dealers Assn., Hotel Jefferson, Saint Louis, Mo.

May 31-June 2—Washington State Auto Dealers Assn., Winthrop Hotel, Tacoma.

June 28-July 1—Michigan Automobile Dealers Assn., Mackinac Island, Mich.

July 8-10—Summer meeting of Automobile Trade Assn. Managers, Hotel Book-Cadillac, Detroit, Mich.

Sept. 16-18—28th Annual Convention, New York Sales Auto Dealers Assn., Sagamore Hotel, Bolton Landing, Lake George, New York.

Sept. 16-18—Annual convention of Kentucky Automobile Dealers Assn., Kentucky Lake, Gilbertsville, Ky.

Sept. 27-28—33rd Annual Convention, New Jersey Automotive Trade Assn., Hotel Traymore, Atlantic City.

Oct. 14-16—Tennessee Automotive Assn. Convention, Buena Vista Hotel, Biloxi, Miss.

Oct. 21-23—Florida Automobile Dealers Assn., 1951 Annual Convention, Tampa Terrace Hotel, Tampa, Florida.

Oct. 29-30—Annual Convention, Ohio Automobile Dealers Assn., Dayton-Biltmore Hotel, Dayton, Ohio.

Nov. 3-6—Texas Automobile Dealers Assn., Shamrock Hotel, Houston.

Nov. 14-15—Annual Meeting of Oklahoma Automobile Dealers Assn., Skirvin Hotel, Oklahoma City.

Jan. 27-30, 1952—NADA Convention, Waldorf-Astoria, New York City.

### Plastics Cannot Supply Industry Metal Shortage

Plastics are *not* available in quantity for replacing metals in automobiles and other consumer durable goods.

Contrary to inferences from various sources in connection with currently published reports about impending government restrictions on metals, this view was expressed by a spokesman for Bakelite Company.

The following statement was made by C. W. Blount, Vice President of Bakelite Company, following receipt by the company of numerous requests and inquiries for further information and clarification:

"It has come to our attention that currently published news reports offer promise of replacing metals with plastic materials. These reports have given the erroneous impression that plastic materials are available in quantity, have no real established uses of their own that are vital, and therefore supplies can be drawn upon immediately.

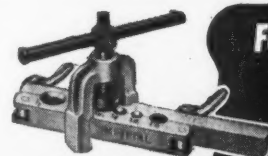
## FITZGERALD METALLIC ALUMINUM- FUSED-OXIDE STEEL ASBESTOS GASKETS\*

STAND THE GAFF IN  
HIGH COMPRESSION ENGINES.  
The Fitzgerald Manufacturing Co.  
Torrington, Connecticut

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SERVICE SPRING COMPANY  
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For Faster  
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### Flaring Tool with quick slip-on yoke

A favorite with service men! Makes proper 45° flares on copper tubing for tight SAE flare joints.

No. 193-F flares 3/16", 1/4", 5/16",  
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MUFFLER GOES **BAD**

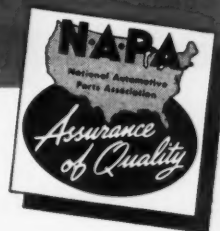


MAKE SURE THE  
REPLACEMENT IS **GOOD**



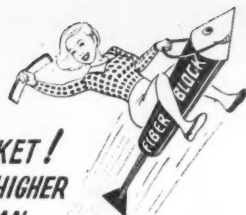
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**MUFFLER**

● When a new muffler is needed, install one that *fits* . . . one that will give the greatest *service*. Soundmaster is the quality line that gives the most of both. Soundmaster standards for noise control, endurance and low back pressure meet in full the most exacting requirements of each vehicle. And, above all, Soundmaster **FIT**—engineered for each particular car—means **F**ast **I**nstallation **T**ime . . . more profit for you!



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80 TIMES HIGHER  
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AMERICA'S LOWEST-PRICED  
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**AUTOMATIC  
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**Pays for Itself in  
6 Months...in One Hour**  
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safe  
sturdy  
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AUTOMOBILE JACKS • GRINDING WHEELS • WATER PUMPS

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We have a number of alert young men who have completed intensive training in Automotive Mechanics, Automatic Transmissions, and Body-Fender Rebuilding. They learned their trades thoroughly by working on actual equipment under personal, expert supervision. If you need a trained man, we invite you to write for an outline of our course, and for a prospectus of the graduate. No fees, of course. Address:

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## Krylon Announces Consumer Advertising Campaign

Krylon, Inc., of Philadelphia, manufacturers of sprayed on acrylic plastic, have launched a nation-wide campaign to promote Krylonizing, the waterproofing of automobile ignition systems. The product is now packaged specifically for automotive use. Plans for a consumer campaign include the distribution of Krylonizing tags

to be attached to the customer's engine and dated with the time of the last application.

## Ford Has 33 Service Training Schools Operating

Ford Division has expanded its service training program with 33 permanent training schools already in operation across the country, all with permanent staffs to conduct training classes.

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*Aldo*

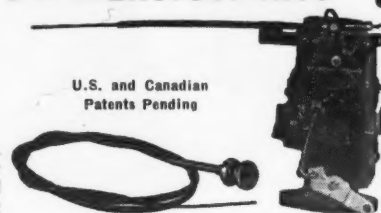
have the  
**Spring Loaded  
Device**

- Our patented spring loaded device assures proper carburetor mixture, giving
- quicker, easier starting. Installs without removing carburetor. Fully guaranteed.

- Also Mfrs. of Complete Line of Universal Hood and Choke Controls.

**MANUAL CHOKE  
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**Superior Screw  
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1924 N. Leamington

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**WITTEK**  
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**HOSE CLAMPS**



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The Standard  
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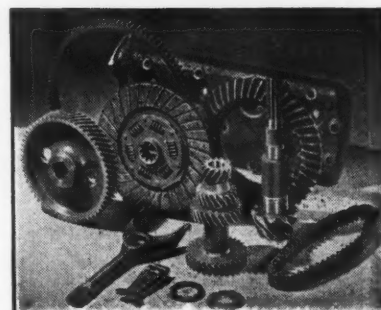
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## SELF-CONTROL STARTS HERE



AND TO RESTORE  
ENGINE PERFORMANCE

## OIL-CONTROL STARTS HERE

To stop oil-pumping, replace worn  
engine bearings

Things aren't always what they first seem to be . . . an oil-pumping engine, for example. Often, the piston rings are wrongly blamed for oil pumping started by worn main, connecting rod or camshaft bearings. *Correction must start at the bearings!* Give the rings a chance to do their own

job—check for worn engine bearings on every engine reconditioning job. Replace with genuine Federal-Mogul bearings, *engineered* for the job of oil control!

### FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)  
DETROIT 13, MICHIGAN



control oil-pumping where it starts—REPLACE WITH

# FEDERAL-MOGUL



## BEARINGS

# Holds Tight in any position

Avoid leaky joints — an "Aero-Seal" Hose Clamp holds tight in any position. Vibration proof. Curved saddle prevents distortion of hose, assures uniform sealing pressure around complete circumference. Stainless steel—corrosion resistant. Hardened steel worm drive unscrews easily but will never shake loose. Send for FREE SAMPLE.

**"Aero-Seal"**  
HOSE CLAMPS.



Worm Drive  
Never Works Loose

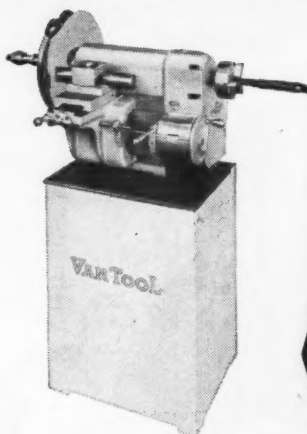


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REAMER DRIVE EXTRA

\*Loose Drum Adapter Included

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**BRAKE DRUM LATHE**

TIMKEN BEARING EQUIPPED

A REAL MACHINE TOOL—Not a Toy  
For Passenger Car and Light Truck Drums

Write or wire NOW about FREE TRIAL OFFER

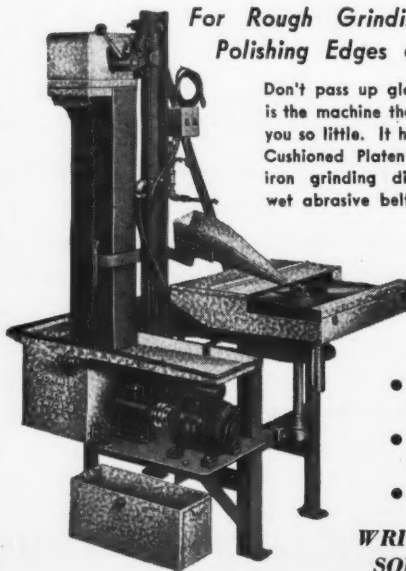
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**2-in-1 COMBINATION MACHINE**

For Rough Grinding, Smoothing and  
Polishing Edges of AUTO GLASS



Don't pass up glass work—profit by it. Here is the machine that will do so much and cost you so little. It has a newly developed Metal Cushioned Platen which is standard . . . cast iron grinding disc for rough grinding . . . wet abrasive belt for finishing.

- Ball Bearing Equipped Throughout
- "Quick-Acting" Belt Take-Up Mechanism
- Direct Motor Drive

WRITE for your copy of  
SOMACA Catalog 1049

**SOMMER & MACA Glass Machinery Co.**

Automotive Department

3624 SOUTH OAKLEY AVENUE CHICAGO 9, ILLINOIS

# FRENCHTOWN INSULATORS



Are The Choice Of  
More Spark Plug  
Manufacturers  
Than  
Any Other Make

The consistently superior performance of FRENCHTOWN INSULATORS has made more spark plug manufacturers insist on this make than any other. The unusually high heat resistance and high dielectric and mechanical strength are the result of forty years constant research.

Whatever your requirements, FRENCHTOWN engineers stand ready to serve you. Inquire today.

Engineered For  
Superior  
Spark Plug Performance

## FRENCHTOWN PORCELAIN CO.

Sales Office, 8 Muirhead Ave., Trenton, N. J.      Factory, Frenchtown, N. J.



# LICKS SERVICE PROBLEMS!

When you need a part to "lick" a tough service problem, think of Champ-Items Automotive Replacement Parts. Time-savers — money-makers for every shop.

**Engineered for EASIER SERVICE—BETTER PERFORMANCE—DRIVING SAFETY**

More than 200 automotive replacement parts featured in Champ-Items catalog — write on your letterhead for a copy. Every up-to-date shop should have one.

LICKS SERVICE PROBLEMS

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YOUR JOBBER

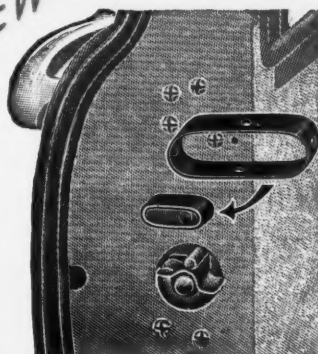


**CHAMP-ITEMS, INC.**

6191 Maple Ave.

St. Louis 14, Mo.

NEW-



**No. 479 ROTARY DOOR LOCK SHIM**

for Plymouth, Dodge, DeSoto and Chrysler

- Holds the door tight, eliminating rattles. Compensates for latch wear. Made of spring bronze the proper thickness for take-up action.

LIST 40c each



*Unexcelled in Quality  
and Performance*

All Linmar Water Pumps are factory duplicates of original equipment and all parts are interchangeable with those supplied by the car manufacturers. The unexcelled service record of Linmar Water Pumps in the field has been made possible by the use of the finest new materials obtainable, precision manufacture and exacting inspection and tests.



**TOLERANCES**

Manufacturing limits as low as .0002" are maintained on critical operations.

**BEARINGS**

Equipped with nationally known and advertised bearings, lubricated for life.

**SEALS**

Bellows type, made of synthetic rubber impervious to oil and reinforced to prevent cracking.

**SHAFTS**

Equipped with long wearing, precision manufactured shafts.

**FITTINGS**

Factory installed with special water repellent lubricants injected into the pumps during assembly.

**BACK PLATES**

Installed on all those pumps designed to require this part.

**GASKETS**

All necessary gaskets of the highest quality obtainable.

**FINISH AND  
PACKING**

All Linmar Pumps are specially treated for rust prevention. They are sturdily packaged and attractively labeled with the manufacturers part and the year and model of the car they fit.

**GUARANTEE**

All Linmar Water Pumps are fully guaranteed against defects in material and workmanship and for exact fit on the car designated.

Write for Catalog L-2.

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AUTOMOBILE JACKS • AUTOMOTIVE GRINDING WHEELS • ONE-END LIFTS • MERCURY CLUTCHES



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## Missing something, Mac?



Mac will be missing a couple of fingers if he isn't more careful—but even so, he is less likely to get "caught" than the dealer who finds himself "trapped" with an off brand of replacement shock absorbers!

It's good business to handle *Monroe Shocks*—the kind that give you all of the advanced features first, and that more car owners are asking for.

Why not let Monroe Replacement Shock Absorbers put cash into the bank for *you*? It's easy... with direct-acting shocks factory-installed on more than 90% of all cars made today, and with Monroe Shock Absorbers standard equipment on more cars than any other brand.



Copy of original "Mac" cartoons sent free upon request.



Monroe Shock Absorbers are standard equipment on more makes of cars than any other brand.

## Look what's cooking!

**WATCH THIS SPACE  
FOR THE HOTTEST NEWS IN  
SHOCK ABSORBER HISTORY**

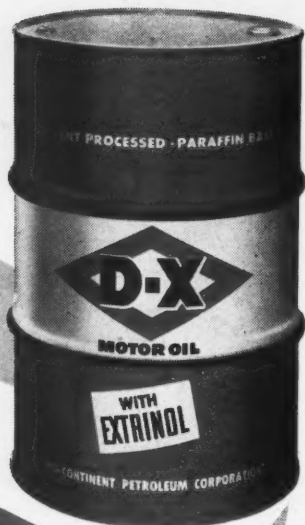
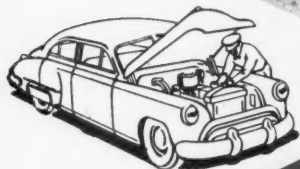
It's coming soon—good news from Monroe for *everybody* in the automotive service industry. Keep your eye peeled for further details of the ultimate in ride control.



## MONROE AUTO EQUIPMENT CO.

Monroe, Mich. — World's Largest Maker of Ride Control Products

"Your Customers may  
not be able to change  
models, but they  
can change  
**OIL!**"



## Will Help Build Service Business

Production cutbacks will mean fewer cars for your agency to sell—but you can partially replace this income with extra service department volume when you sell D-X Motor Oil with Extrinol.

D-X with Extrinol is a *different* oil. Your customers see the difference in its performance in their own cars because it stands up longer and lubricates better. They will come back to your service department for it.

New car dealers all over the Middle West have found that a D-X Franchise has unusual profit possibilities. If you are interested in building service business with a D-X Franchise, write to us today for complete information.



MID-CONTINENT PETROLEUM CORPORATION  
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Chicago, Ill.

Terre Haute, Ind.

Omaha, Nebr.  
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**from**  
**BUMPER TO BUMPER . . .**  
*you need* **CHANNELLOCK**

*Made only by* CHAMPION DEARMENT

On almost every repair job in the garage you use pliers—and where pliers are used you Need Channellock.

Channellock pliers are designed to give longer Service and more efficient operation. The patented Channellock principle permits a wide range of sizes without loss of grip or leverage. They are made of strongest materials by Champion DeArment who for nearly 3/4 of a century have been making and selling highest quality tools.

If you are working on cars you use pliers—and if you use pliers You Need Channellock.

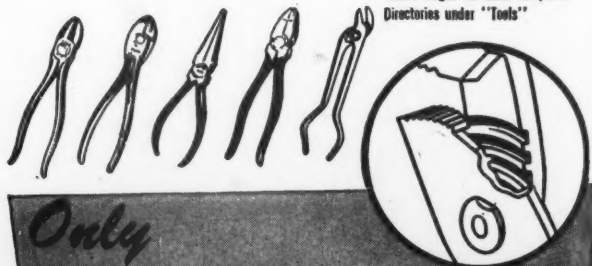
Remember, **ONLY** Champion DeArment makes Channellock.

Send for Catalog D8 today.

**CHAMPION DEARMENT TOOL CO.**

Meadville, Pa.

Channellock pliers are listed in the  
Yellow Pages of most Telephone  
Directories under "Tools"



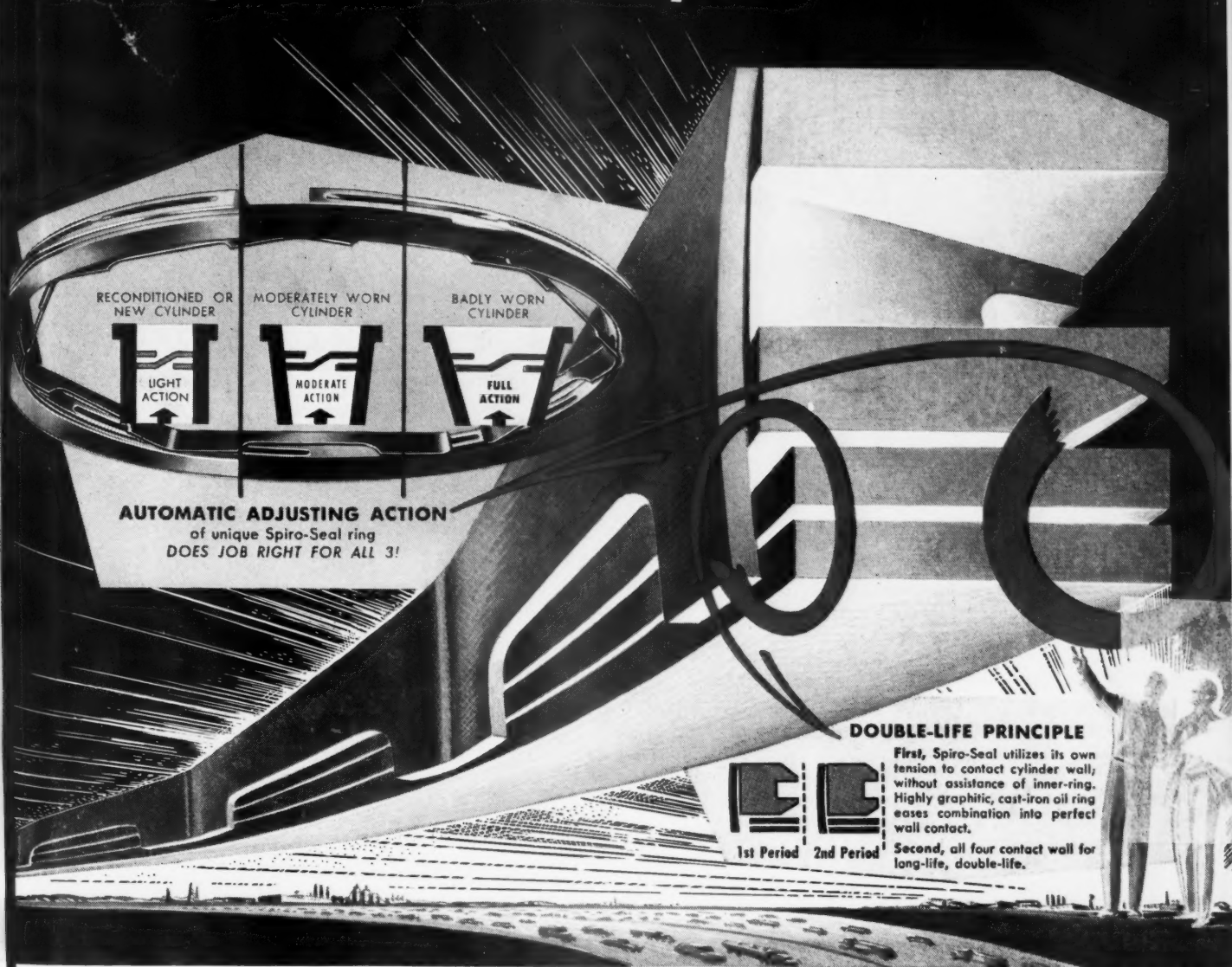
*Only*

**CHAMPION DEARMENT makes . . .**

**CHAN NEL LOCK**



# 2 Unique Ramco Principles:



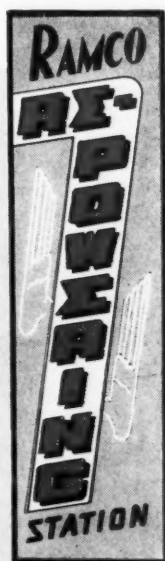
2 important reasons why:

## RAMCO 10<sub>up</sub> CURBS WEAR!

**RAMCO RE-POWERING Program\* Helps You To Help America Fight Premature Car Wear**

Here's the program to help you show customers that oil pumping and blow-by are warning signs of serious premature wear. Help America conserve resources by urging customers not to put off Re-Ringing. Sign up for RE-POWERING Station Sign today. See your Ramco Jobber.

\* Nationally Advertised in



It is a combination of distinctive principles like the two shown here that make Ramco 10-Up the truly all-purpose rings for every job, Re-Bore or Re-Ring. Principles like these make Ramco 10-Up Rings look different and perform differently from conventional rings.

Ramco 10-Up Rings are different in performance in that they control oil *primarily through stabilization* rather than pressure. That's why Ramco 10-Up Rings work with equal satisfaction in both new, straight wall cylinders or in worn, tapered cylinders. That's why they are truly all-purpose rings . . . and can be guaranteed for 10,000 miles (one year) on both rings and labor. *That's why:*

**Ramco 10-Up Piston Rings Are Right for Any Job  
Re-Bore or Re-Ring . . . Car . . . Truck . . . Bus . . . Tractor**

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# Never Accept Unbranded Brake Lining

Look for this Stamp of Quality



## Did You Know?

Did you know that when heavy vehicles make fast stops, the brake lining is subjected to—

### Terrific Heat

—often as hot as molten lead—hot enough to heat a 6-room house—certainly enough to soften up the bonding agents\* in an inferior brake lining, and cause loss of friction.



### Tremendous Pressure

Each time you press the brake pedal, your foot weighs a ton—so far as the brake lining is concerned. This tremendous pressure compresses inferior brake linings to the point where they may fail in an emergency.

### High Rubbing Velocity

As the brake starts taking hold, the drum speed may be as much as 3000 feet a minute—fast enough to rub away the surface of inferior linings, causing them to wear out quickly and require frequent adjustment.

\*Thermoid bonding agents are specially compounded to withstand peak operating temperatures.

Nobody can tell good brake linings from poor—by the looks or feel.

The only way to be sure of getting dependable brake lining is to insist that it show the name of a well known manufacturer, whose products you *know* have passed the most rigorous tests.

When you buy brake lining or exchange brake shoes, look for the name "Thermoid" . . . and give your customers "the safest thing on wheels."

# Thermoid

Thermoid Company • Trenton, New Jersey

the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.